

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Camie Thompson Examiner #: 79244 Date: 8/9/06
 Art Unit: 1714 Phone Number: 301-571-272-1530 Serial Number: 10/519,967
 Mail Box and Bldg/Room Location: 1241 10 D28 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: 2,1,3-Benzo thiadiazoles for use as an electronic
 Inventors (please provide full names): Phillip Stossel; Amir Parham; Horst
Vest Weber; Hubert Spreitzer
 Earliest Priority Filing Date: 6/09/02

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please do a search on all claims

SCIENTIFIC REFERENCE BR
 Sci & Tech Inf. Ctr.
 AUG 10 2006
 Pat. & T.M. Office

Charles

STAFF USE ONLY

Searcher: <u>M&H</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #:	NA Sequence (#)	STN <input checked="" type="checkbox"/>
Searcher Location:	AA Sequence (#)	Dialog
Date Searcher Picked Up: <u>8/14/06</u>	Structure (#) <u>7</u>	Questel/Orbit
Date Completed:	Bibliographic <u>(6 Subjects)</u>	Dr. Link
Searcher Prep & Review Time:	Litigation	Lexis/Nexis
Clerical Prep Time:	Fulltext	Sequence Systems
Online Time:	Patent Family	WWW/Internet
	Other	Other (specify)



STIC Search Report

EIC 1700

STIC Database Tracking Number: 198139

TO: Camie Thompson

Location: REM 10D28

Art Unit : 1774

August 14, 2006

Case Serial Number: 10/519967

From: Mei Huang

Location: EIC 1700

REMSSEN 4B28

Phone: 571/272-3952

Mei.huang@uspto.gov

Search Notes

Examiner Thompson,

- 0 hit on formula III, see L24, page 1, and L22 for query on page 3. Therefore, did not search for formulas VI and VIII.
- 0 hit on formula VII, see L45, page 2, and L43 for query on page 4-5.
- 32 hits on formula I limited with mol. Wt. See answers on page 6-89. Note that the limitation of the specific range of claim 1 would only result one hit which is the current application, see L52, page 2.
- 39 hits on formula II, page 89-215.
- 7 hits on formula IV, page 215-241.
- 13 hits on formula V, page 241-282.
- 2 hits on both formula IV and V, page 282-293.
- 6 hits on formula IX, page 293-307.

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang





STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art found, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art *not* found:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

=> fil reg

FILE 'REGISTRY' ENTERED AT 14:05:24 ON 14 AUG 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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=> d his ful

(FILE 'HOME' ENTERED AT 10:48:53 ON 14 AUG 2006)

FILE 'HCAPLUS' ENTERED AT 10:49:13 ON 14 AUG 2006

E US20060052612/PN

L1 1 SEA US2006052612/PN

FILE 'REGISTRY' ENTERED AT 10:49:47 ON 14 AUG 2006

L2 19 SEA (128-08-5/BI OR 15155-41-6/BI OR 16419-60-6/BI OR
L3 STR
L4 50 SEA SSS SAM L3
L5 7831 SEA SSS FUL L3
SAV L5 THO967/A
L6 10 SEA L2 AND L5
L7 STR L3
L8 16 SEA SUB=L5 SSS SAM L7
L9 STR L7
L10 16 SEA SUB=L5 SSS SAM L9
L11 STR L3
L12 0 SEA SUB=L5 SSS SAM L11
L13 STR L9
L14 0 SEA SUB=L5 SSS SAM L13
L15 STR L9
L16 0 SEA SUB=L5 SSS SAM L15
L17 STR L11
L18 0 SEA SUB=L5 SSS SAM L17
L19 STR L3
L20 0 SEA SUB=L5 SSS SAM L19
L21 316 SEA SUB=L5 SSS FUL L9
SAV L21 THO967F2/A
L22 STR L11
L23 0 SEA SUB=L5 SSS SAM L22
L24 0 SEA SUB=L5 SSS FUL L22
L25 1 SEA 643007-09-4/RN
D STR RSD
L26 7647 SEA 333.427/RID
L27 508 SEA L26 NOT L5
L28 3711 SEA L26 AND 4-20/NR
L29 150 SEA L27 AND 4-20/NR
L30 110 SEA L29 AND 1/NC
L31 109 SEA L30 NOT PMS/CI
L32 STR L13
L33 0 SEA SUB=L5 SSS SAM L32
L34 22 SEA SUB=L5 SSS FUL L32
SAV L34 THO967F4/A
L35 STR L15
L36 STR L35
L37 2 SEA SUB=L5 SSS SAM L36
L38 24 SEA SUB=L5 SSS FUL L36
SAV L38 THO967F5/A
L39 11 SEA L31 AND 8-21/NR
L40 STR L3

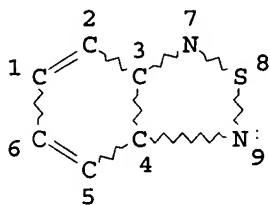
L41 0 SEA SUB=L5 SSS SAM L40
 L42 12 SEA SUB=L5 SSS FUL L40
 SAV L42 THO967F9/A
 L43 STR L19
 L44 0 SEA SUB=L5 SSS SAM L43
 L45 0 SEA SUB=L5 SSS FUL L43
 L46 STR L3
 L47 50 SEA SUB=L5 SSS SAM L46

FILE 'HCAPLUS' ENTERED AT 13:40:18 ON 14 AUG 2006

L48 2150 SEA L5
 L49 609200 SEA (MOLAR OR MOLECUL? OR MOL#) (2A) (WEIGHT? OR WT# OR
 MASS##)
 L50 55 SEA L48 AND L49
 L51 8382 SEA (350 OR 400 OR 420 OR 450 OR 500) (2A) (4000 OR 5000
 OR 6000)
 L52 1 SEA L50 AND L51
 L53 156 SEA L21
 L54 12 SEA L53 AND L49
 L55 49 SEA L53 AND (1840-2002)/PY,PRY
 L56 9 SEA L34
 L57 15 SEA L38
 L58 6 SEA L42
 L59 38 SEA L50 AND (1840-2003)/PY,PRY
 L60 45 SEA L55 NOT (L59 OR L54)
 L61 4 SEA L56 NOT (L59 OR L54 OR L60)
 L62 11 SEA L57 NOT (L59 OR L54 OR L60 OR L61)
 L63 1 SEA L58 NOT (L59 OR L54 OR L60 OR L61 OR L62)
 L64 2 SEA L56 AND L57
 L65 32 SEA L59 NOT (L54 OR L60 OR L56 OR L57 OR L58)
 L66 5 SEA L54 NOT (L59 OR L60 OR L56 OR L57 OR L58)
 L67 34 SEA L60 NOT (L59 OR L54 OR L56 OR L57 OR L58)
 L68 7 SEA L56 NOT L64
 L69 13 SEA L57 NOT L64

=> d l3 que stat

L3 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

=> d l9 que stat

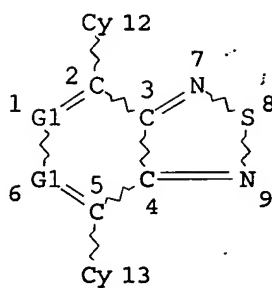
MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

L9

STR

C~A
@10 11



VAR G1=CH/10

NODE ATTRIBUTES:

NSPEC IS RC AT 11

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 12

GGCAT IS UNS AT 13

DEFAULT ECLEVEL IS LIMITED

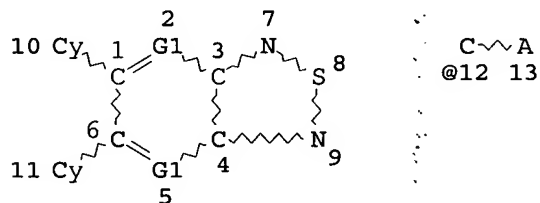
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RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

=> d 122 que stat
L22 STR



VAR G1=CH/12

NODE ATTRIBUTES:

NSPEC IS RC AT 13

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 10

GGCAT IS UNS AT 11

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

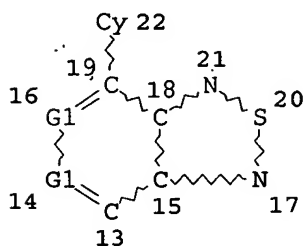
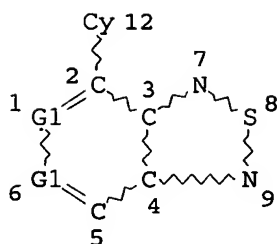
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

=> d 132 que stat
L32 STR

C~A
@10 11



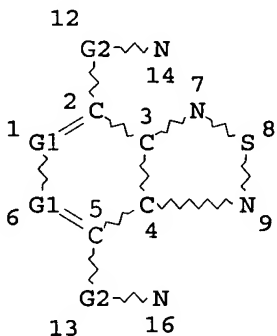
VAR G1=CH/10
NODE ATTRIBUTES:
NSPEC IS RC AT 11
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 12
GGCAT IS UNS AT 22
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

=> d 136 que stat
L36 STR

C~A
@10 11



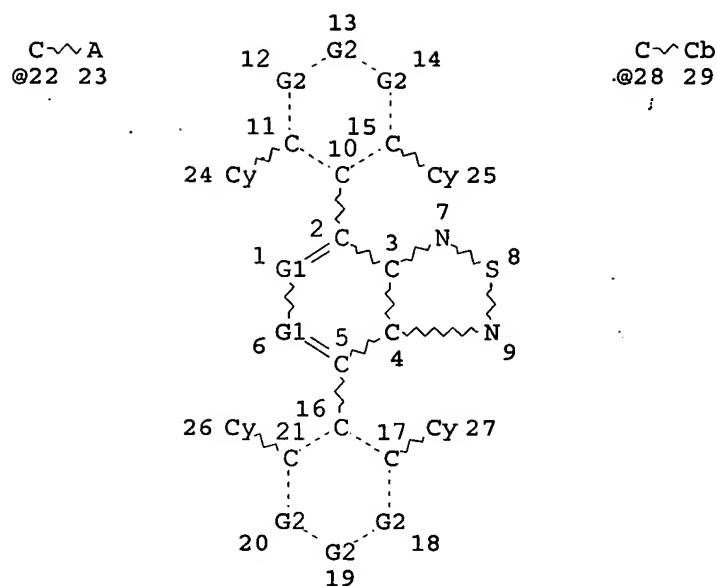
Cy @17

VAR G1=CH/10
REP G2=(1-10) 17
NODE ATTRIBUTES:
NSPEC IS RC AT 11
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 17
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

=> d 143 que stat
L43 STR

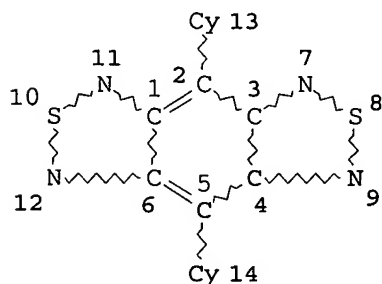


VAR G1=CH/22
VAR G2=28/22/CH/N
NODE ATTRIBUTES:
NSPEC IS RC AT 23
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 24
GGCAT IS UNS AT 25
GGCAT IS UNS AT 26
GGCAT IS UNS AT 27
GGCAT IS UNS AT 29
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

=> d 140 que stat
L40 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 13
GGCAT IS UNS AT 14

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 14:06:28 ON 14 AUG 2006

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=> d l65 ibib abs hitstr hitind 1-32

L65 ANSWER 1 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:588651 HCAPLUS

DOCUMENT NUMBER: 143:109784

TITLE: Immunomodulatory compounds that target and
inhibit the py+3 binding site of tyrosine kinase
p56lck SH2 domain

INVENTOR(S): Mackerell, Alexander D., Jr.; Hayashi, Jun;
Nagarsekar, Ashish; Huang, Niu; Macias, Alba

PATENT ASSIGNEE(S): University of Maryland, Baltimore, USA

SOURCE: PCT Int. Appl., 213 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005060956	A1	20050707	WO 2003-US39501	20031212
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003297904	A1	20050714	AU 2003-297904	20031212

PRIORITY APPLN. INFO.:

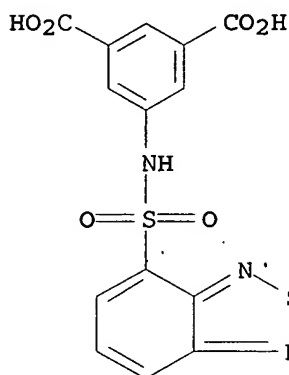
WO 2003-US39501 A

20031212

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

OTHER SOURCE(S): MARPAT 143:109784
AB Small mol.-wt. non-peptidic compds. block Lck
SH2 domain-dependent interactions. The inhibitors omit
phosphotyrosine (pY) or related moieties.
IT 421583-60-0
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(immunomodulatory compds. that target and inhibit py+3 binding
site of tyrosine kinase p56 lck SH2 domain)
RN 421583-60-0 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-[(2,1,3-benzothiadiazol-4-
ylsulfonyl)amino]- (9CI) (CA INDEX NAME)



IC ICM A61K031-33
CC 1-7 (Pharmacology)
Section cross-reference(s): 7
IT 1245-13-2 1797-93-9 5959-79-5 7017-58-5 292065-64-6
300570-77-8 307525-49-1 313521-38-9 331750-14-2 333311-83-4
337932-26-0 340230-74-2 345987-66-8 351983-79-4 352345-63-2
353510-36-8 355435-43-7 355815-66-6 361178-62-3 363597-45-9
364051-38-7 384373-21-1 400877-99-8 421583-60-0
422541-60-4 430465-51-3 432503-76-9 434325-49-2 442677-00-1
443317-87-1 448915-48-8 494759-04-5 496767-24-9 502186-21-2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(immunomodulatory compds. that target and inhibit py+3 binding
site of tyrosine kinase p56 lck SH2 domain)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L65 ANSWER 2 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:540516 HCAPLUS
DOCUMENT NUMBER: 143:56185
TITLE: Method for detection, separation and
identification of expressed trace
protein/peptide
INVENTOR(S): Imai, Kazuhiro
PATENT ASSIGNEE(S): Japan
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005056146	A2	20050623	WO 2004-JP18592	20041213

WO 2005056146 A3 20050818

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

JP 2003-412810

A

20031211

OTHER SOURCE(S):

MARPAT 143:56185

AB A method for detecting, sepg. and identifying a minute quantity of expressed proteins/peptides (proteome), and its system are provided. The method is characterized in that it comprises applying the fluorescent derivs. obtained by labeling proteins and/or peptides in a test sample with a fluorescence reagent to HPLC, collecting fluorescent fractions, subjecting them to enzymic hydrolysis, performing mass spectrometry with the resultant fluorescence-labeled fragments and non-fluorescence-labeled fragments to obtain the ion mol. wt. information on each fragment, and collating the information with the available protein and/or peptide fragment database to thereby accomplish a structural anal.

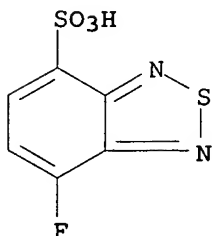
IT 743418-72-6P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(method for identifying expressed trace proteins/peptides by fluorescent labeling, enzymic hydrolysis and HPLC/MS)

RN 743418-72-6 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-sulfonic acid, 7-fluoro- (9CI) (CA INDEX NAME)



IT 134963-05-6P, 4-Fluoro-2,1,3-benzothiadiazole

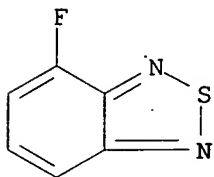
MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (method for identifying expressed trace proteins/peptides by
 fluoroscent labeling, enzymic hydrolysis and HPLC/MS)

RN 134963-05-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4-fluoro- (9CI) (CA INDEX NAME)



IC ICM B01D

CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 6

IT **Molecular weight**

(ion; method for identifying expressed trace proteins/peptides by
 fluoroscent labeling, enzymic hydrolysis and HPLC/MS)

IT 664985-43-7P, DAABD-Cl 664985-44-8P, TAABD-Cl 736926-37-7P
 743418-72-6P 854484-97-2P 854484-98-3P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)

(method for identifying expressed trace proteins/peptides by
 fluoroscent labeling, enzymic hydrolysis and HPLC/MS)

IT 134963-05-6P, 4-Fluoro-2,1,3-benzothiadiazole

668474-66-6P, 4-Fluoro-2,1,3-benzoselenadiazole 854484-96-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(method for identifying expressed trace proteins/peptides by
 fluoroscent labeling, enzymic hydrolysis and HPLC/MS)

L65 ANSWER 3 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STM

ACCESSION NUMBER: 2005:524840 HCAPLUS

DOCUMENT NUMBER: 143:68078

TITLE: Organic electroluminescent device, method of
 manufacturing the same, and electronic apparatus

INVENTOR(S): Uchida, Masahiro

PATENT ASSIGNEE(S): Seiko Epson Corporation, Japan

SOURCE: U.S. Pat. Appl. Publ., 27 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005127360	A1	20050616	US 2004-9154	20041213
US 7084426	B2	20060801		
JP 2005203337	A2	20050728	JP 2004-276589	20040924

CN 1630442

A

20050622

CN 2004-10102207

200412
15

PRIORITY APPLN. INFO.:

JP 2003-418011

A

200312
16

JP 2004-276589

A

200409
24

AB An org. electroluminescent device is described comprising a plurality of org. light-emitting elements each having a laminate in which an org. light-emitting layer is interposed between an anode and a cathode, wherein the org. light-emitting layer is made of a high-mol.-wt. light-emitting material, the plurality of org. light-emitting elements include a first org. light-emitting element which has a first LUMO (LUMO) level, and a second org. light-emitting element having a second LUMO level,, the first LUMO level is a highest LUMO level, the second LUMO level being a lowest LUMO level among the org. light-emitting materials for the element, and the cathode is formed common to the first and the second org. light-emitting element, and the cathode has a first layer and a second layer, the first layer being made of a fluoride or oxide of an alkali metallic material (e.g., LiF) or of an alkali earth metallic material, or a complex or compd. of an org. material, and the second layer contg. atoms of which work functions of the atoms and the first LUMO level is <0.7 eV, and the first and the second layer being sequentially deposited on the org. light-emitting layer. A method of fabricating the org. electroluminescent device is also described.

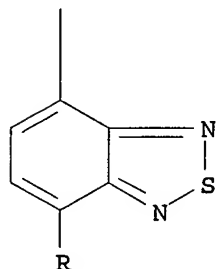
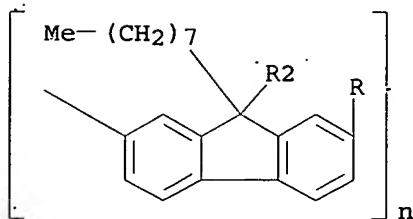
IT 210347-52-7, F8BT

RL: DEV (Device component use); USES (Uses)
(green light emitting layer; org. LED using light-emitting material and layered cathode with selected LUMO level)

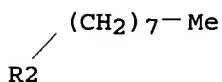
RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H01L031-036
 ICS H01J063-04
 INCL 257059000; 257072000; 313506000
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 74, 76
 IT 210347-52-7, F8BT
 RL: DEV (Device component use); USES (Uses)
 (green light emitting layer; org. LED using light-emitting material and layered cathode with selected LUMO level)
 L65 ANSWER 4 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:369133 HCAPLUS
 DOCUMENT NUMBER: 142:435774
 TITLE: Compositions treatment of chronic inflammatory diseases
 INVENTOR(S): Shapiro, Howard K.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 44 pp., Cont.-in-part of U.S. Ser. No. 610,073, abandoned.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 4
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005090553	A1	20050428	US 2004-924945	20040824
<p>PRIORITY APPLN. INFO.:</p> <p>US 1992-906909 B2 19920630</p> <p>US 1994-241603 B2 19940511</p> <p>US 1997-814291 B2 19970310</p> <p>US 2000-610073 B2 20000705</p>				

OTHER SOURCE(S): MARPAT 142:435774

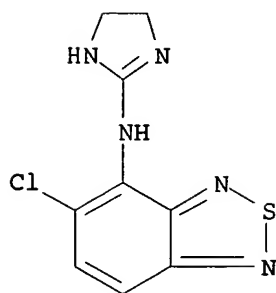
AB This invention defines novel compns. that can be used for clin. treatment of a class of chronic inflammatory diseases. Increased generation of carbonyl substances, aldehydes and ketones, occurs at sites of chronic inflammation and is common to the etiologies of all of the clin. disorders addressed herein. Such carbonyl substances are cytotoxic and addnl. serve to perpetuate and disseminate the inflammatory process. This invention defines use of compns., the orally administered required primary agents of which are primary amine derivs. of benzoic acid capable of reacting with the carbonyl substances. P-Aminobenzoic acid (or PABA) is an example of the required primary agent of the present invention. PABA has a small mol. wt., is water sol., has a primary amine group which reacts with carbonyl-contg. substances and is tolerated by the body in relatively high dosages for extended periods. The method of the present invention includes administration of a compn. comprising: (1) an orally consumed primary agent; (2) a previously known medicament co-agent recognized as effective to treat a chronic inflammatory disease addressed herein administered to the mammalian subject via the oral route, other systemic routes of administration or via the topical route; and (3) optionally 1 or more addnl. orally consumed co-agent selected from the group consisting of antioxidants, vitamins, metabolites at risk of depletion, sulfhydryl co-agents, co-agents which may facilitate glutathione activity and nonabsorbable primary amine polymeric co-agents, so as to produce an additive or synergistic physiol. effect of an anti-inflammatory nature.

IT 51322-75-9, Tizanidine

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. treatment of chronic inflammatory diseases)

RN 51322-75-9 HCAPLUS

CN 2,1,3-Benzothiadiazol-4-amine, 5-chloro-N-(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



IC ICM A61K031-195
 INCL 514565000; 514567000
 CC 63-6 (Pharmaceuticals)
 Section cross-reference(s): 1
 IT 5633-20-5, Oxybutynin 5728-52-9, Felbinac 5913-70-2, Pyridoxal
 5-phosphate calcium salt 5934-23-6, Vitamin K2(30) dihydro
 diacetate 5934-25-8, Vitamin K6 dihydrochloride 5934-26-9,
 Vitamin K7 hydrochloride 5949-29-1, Citric acid monohydrate
 6020-87-7, Creatine monohydrate 6027-13-0, Homocysteine
 6035-45-6, Folinic acid calcium salt pentahydrate 6054-98-4,
 Disodium azodisalicylate 6100-05-6 6223-35-4, Sodium
 guaiazulene-3-sulfonate 6452-71-7, Oxprenolol 6493-05-6,
 Pentoxifylline 7085-45-2, Biperiden lactate 7235-40-7,
 β -Carotene 7512-17-6, N-AcetylGlucosamine 7616-22-0,
 γ -Tocopherol 7683-59-2, Isoproterenol 7782-49-2, Selenium,
 biological studies 8059-24-3, Vitamin B6 8069-87-2 9001-90-5D,
 Plasmin, streptokinase complex, acylated 9002-01-1, Streptokinase
 9002-01-1D, Streptokinase, plasmin complex, acylated 9002-60-2,
 Corticotropin, biological studies 9002-89-5D, Poly(vinyl alcohol),
 derivs. 9003-39-8, Polyvinylpyrrolidone 9003-53-6D, Polystyrene,
 derivs. 9003-70-7D, Divinylbenzene-styrene copolymer, derivs.
 9004-34-6D, Cellulose, derivs. 9004-57-3, Ethyl cellulose
 9005-49-6, Heparin, biological studies 9014-67-9, Aloxiprin
 9039-53-6D, Urokinase, acylated 9041-08-1, Heparin sodium
 10118-90-8, Minocycline 10236-58-5, L-Selenocysteine 11032-49-8,
 Vitamin K2 11104-38-4, Vitamin K1 12192-57-3, Aurothioglucose
 12244-57-4, Gold sodium thiomalate 13345-51-2D, Prostaglandin B1,
 oligomers 13422-55-4, Methyl vitamin B12 13523-86-9, Pindolol
 13539-59-8, Azapropazone 13655-52-2, Alprenolol 13710-19-5,
 Tolfenamic acid 13739-02-1, Diacetylrhein 13993-65-2, Metiazinic
 acid 14402-89-2, Sodium nitroprusside 15307-86-5, Diclofenac
 15475-56-6, Methotrexate sodium 15686-51-8, Clemastine
 15687-27-1, Ibuprofen 15722-48-2, Olsalazine 16051-77-7,
 Isosorbide 5-mononitrate 17969-20-9, Fenclozic acid 18471-20-0,
 Ditazol 18472-51-0, Chlorhexidine gluconate 18642-10-9, Thiamine
 disulfide hydrochloride 18694-40-1, Epirizole 18917-89-0,
 Magnesium salicylate 19771-63-2, L-2-Oxothiazolidine-4-carboxylic
 acid 19982-08-2, Memantine 20168-99-4, Cinmetacin 20554-84-1,
 Parthenolide 21256-18-8, Oxaprozin 21829-25-4, Nifedipine
 22071-15-4, Ketoprofen 22204-53-1, Naproxen 22494-42-4,
 Diflunisal 22760-18-5, Proquazone 23288-49-5, Probuco
 23981-47-7, 6-Methoxy-2-naphthylacetic acid 24237-54-5, Tinoridine
 25013-16-5, Butylated hydroxyanisole 25122-46-7, Clobetasol
 propionate 25451-15-4, Felbamate 25486-55-9, Vitamin K1 oxide
 26171-23-3, Tolmetin 26589-39-9, Eudragit S 26787-78-0,
 Amoxicillin 26839-75-8, Timolol 27035-30-9, Oxametacin
 27470-51-5, Suxibuzone 27686-36-8, Hypolaetin-8-glucoside

27696-41-9, Hypolaetin 28704-27-0, L-Alanine-L-glutamic acid-L-lysine-L-tyrosine copolymer 28841-62-5, D-myo-Inositol-1.2.6-trisphosphate 29031-19-4, Glucosamine sulfate 29098-15-5, Etoclofene 29122-68-7, Atenolol 29679-58-1, Fenoprofen 29908-03-0, S-Adenosylmethionine 30011-11-1, Bimetopyrol 30748-29-9, Feprazone 31793-07-4, Pirprofen 31842-01-0, Indoprofen 32808-51-8, Bucloxic acid 32839-30-8, Eicosapentaenoic acid 33005-95-7, Tiaprofenic acid 34031-32-8, Auranoftin 34042-85-8, Sudoxicam 34148-01-1, Clidanac 34334-69-5, Cirsiliol 34461-73-9, Bumadizone calcium 34552-84-6, Isoxicam 34645-84-6, Fenclofenac 36322-90-4, Piroxicam 36330-85-5, Fenbufen 36364-49-5, Imidazole salicylate 36616-52-1, Fenclorac 36740-73-5, Flumizole 36894-69-6, Labetalol 36994-25-9, 2-(p-Bromophenyl)-9-dimethylaminopropyl-9H-imidazo[1,2-a]benzimidazole 37270-89-6, Heparin calcium 37517-30-9, Acebutolol 38194-50-2, Sulindac 38363-40-5, Penbutolol 38957-41-4, Emorfazone 40828-46-4, Suprofen 41340-25-4, Etodolac 42200-33-9, Nadolol 42399-41-7, Diltiazem 42924-53-8, Nabumetone 50270-32-1, 1-Isobutyl-3,4-diphenylpyrazole-5-acetic acid 50270-33-2, Isofezolac 51059-44-0, Oroxindin 51234-28-7, Benoxaprofen 51322-75-9, Tizanidine 51384-51-1, Metoprolol 51484-40-3, Difenpiramide 51579-82-9, Amfenac 51781-06-7, Carteolol 51803-78-2, Nimesulide 52263-84-0, (S)-(+)-Carprofen 52443-21-7, Glucametacin 53123-88-9, Rapamycin 53179-11-6D, Loperamide, diazo derivs. 53527-28-9, Scalaradial 53597-27-6, Fendosal 53716-49-7, Carprofen 54350-48-0, Etretinate 55142-85-3, Ticlopidine 55242-55-2, Propentophylline 55366-56-8, Hibifolin 55453-87-7, Isoxepac 55837-18-8, Butibufen 55985-32-5, Nicardipine 56824-20-5, Amiprilose 57132-53-3, Proglumetacin 58433-11-7, Tilomisole 58456-91-0, 2-Aminomethyl-4-tert-butyl-6-iodophenol 59122-46-2, Misoprostol 59804-37-4, Tenoxicam 59865-13-3, Cyclosporin A 59937-28-9, Malotilate 60142-96-3, Gabapentin 60940-34-3, Ebselen 61941-57-9, Ethyl 2-amino-3-benzoylphenylacetate 62571-86-2, Captopril 63329-53-3, Lobenzarit 63659-18-7, Betaxolol 64217-16-9, Phenytoin-phenobarbital mixt. 64224-21-1, Oltipraz 64294-95-7, Setastine 64425-90-7, Choline magnesium trisalicylate, biological studies 65277-42-1, Ketoconazole 65666-07-1, Silymarin 66734-13-2, Alclometasone dipropionate 66934-18-7, Flunoxaprofen 68291-97-4, Zonisamide 68506-86-5, Vigabatrin 68767-14-6, Loxoprofen 69425-13-4, 2,6-Di-tert-butyl-4-[2'-thenoyl]-phenol 70360-12-2, Sideritoflavone 71125-38-7, Meloxicam 71320-77-9, Moclobemide 72509-76-3, Felodipine 74103-06-3, Ketorolac 74103-07-4, Ketorolac tromethamine 74469-00-4, Amoxicillin-clavulanate potassium mixt. 75060-92-3 75364-47-5 75695-93-1, Isradipine 75706-12-6, Leflunomide 75821-71-5, Lonazolac calcium 75847-73-3, Enalapril 76420-72-9, Enalaprilat 76547-98-3, Lisinopril 76584-70-8, Divalproex sodium 76990-56-2, Milacemide 77086-21-6, Dizocilpine 77699-47-9, Herbimycin 80474-14-2, Fluticasone propionate 80937-31-1, 6-(2,4-Difluorophenoxy)-5-methylsulfonylamino-1-indanone 81147-92-4, Esmolol 83919-23-7, Mometasone 17-(2-furoate) 84057-84-1, Lamotrigine 85441-61-8, Quinapril 86541-75-5, Benazepril 87333-19-5, Ramipril 88150-42-9, Amlodipine 89149-10-0, 15-Deoxyspergualin 89796-99-6, Aceclofenac 90101-16-9, Droxicam 91418-71-2, Diacetylsplenopentin 98048-97-6, Fosinopril 98320-39-9, (10-Methoxy-4H-benzo[4,5]cyclohepta[1,2-b]thiophene-4-ylidene)acetic acid 100827-28-9, Erbstatin 103475-41-8, Tepoxalin 110101-67-2,

Tirilazad mesylate 110952-54-0, 2-(2-Hydroxy-4-methylphenyl)aminothiazole hydrochloride 111406-87-2, Zileuton 117279-73-9 120072-59-5, 7-[3-(4-Acetyl-3-methoxy-2-propylphenoxy)-propoxy]-3,4-dihydro-8-propyl-2H-1-benzopyran-2-carboxylic acid 120210-48-2, Tenidap 122726-03-8, Vitamin K2(35) dihydro diacetate 125697-92-9, Lavendustin A 129424-08-4 131420-91-2, (Z)-3-[4-(Acetyloxy)-5-ethyl-3-methoxy-1-naphthalenyl]-2-methyl-2-propenoic acid 132392-39-3, 5-[[3,5-Bis(1,1-dimethylethyl)-4-hydroxyphenyl]methylene]-3-(dimethylamino)-4-thiazolidinone 132392-65-5, 5-[[3,5-Bis(1,1-dimethylethyl)-4-hydroxyphenyl]methylene]-3-(methylamino)-4-thiazolidinone 133332-08-8, DL-2-(4-Hexyloxyphenyl)glycine octyl ester 133763-16-3, 1-p-Chlorobenzyl-2-dimethylaminomethyl-1,2-cyclohexene 135872-94-5, 1-[(4-Chlorophenyl)methyl]-2-methyl-5-(quinolinylmethoxy)-1H-indole-3-acetic acid 136449-85-9 139639-23-9, Tissue plasminogen activator 143090-92-0, Anakinra 150977-36-9, Bromelain 151035-57-3, Quinapril-hydrochlorothiazide mixt. 226721-96-6, Sodium 2-[4-(2-oxocyclopentylmethyl)phenyl]propionate dihydrate 354124-52-0, Thiocetic acid ethylenediamine 700346-94-7, Nicotinic acid sodium salt sesquihydrate 762210-30-0, DL-2-[4-(5,5-Dimethylhexyloxy)phenyl]glycine octyl ester
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (compsns. treatment of chronic inflammatory diseases)

L65 ANSWER 5 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:57485 HCAPLUS
 DOCUMENT NUMBER: 142:130356
 TITLE: Method for detecting/isolating/identifying expressed minute proteins/peptides
 INVENTOR(S): Imai, Kazuhiro
 PATENT ASSIGNEE(S): Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005017264	A2	20050120	JP 2003-342681	20030930
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PRIORITY APPLN. INFO.:			JP 2002-289313	A 20021001
<--				
			JP 2003-160201	A 20030605
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OTHER SOURCE(S): MARPAT 142:130356

AB A method and a system are provided for detecting/isolating/identifying expressed minute proteins/peptides. The method is characterized in that it comprises prepg. fluorescencet derivs. of proteins and/or peptides in a test sample by labeling them with a fluorescent reagent, applying the fluorescencet derivs. to HPLC, collecting fluorescent fractions, applying them to enzymic hydrolysis, applying

fluorescent-labeled fragments and non-fluorescent labeled fragments to mass anal. to obtain the ion mol. wt. information for each fragment, and referring the information to the protein and/or peptide fragment database for structure anal. As an example, about 130 thiol-contg. proteins/peptides were isolated from rat pancreatic islet of Langerhans by this method using a thiol-specific fluorescent reagent, and about 50 proteins/peptides of them were identified.

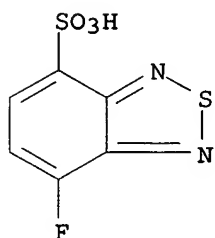
IT 743418-72-6P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(method for detecting/isolating/identifying expressed minute proteins/peptides by combination of fluorescent labeling, HPLC, enzymic hydrolysis and MS)

RN 743418-72-6 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-sulfonic acid, 7-fluoro- (9CI) (CA INDEX NAME)



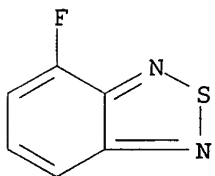
IT 134963-05-6P, 4-Fluoro-2,1,3-benzothiadiazole

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(method for detecting/isolating/identifying expressed minute proteins/peptides by combination of fluorescent labeling, HPLC, enzymic hydrolysis and MS)

RN 134963-05-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4-fluoro- (9CI) (CA INDEX NAME)



IC ICM G01N033-68

ICS G01N027-62; G01N030-02; G01N030-06; G01N030-74; G01N030-80; G01N030-84; G01N030-88; G01N031-00; G01N031-22; G01N030-26; G01N030-34; G01N030-48

CC 9-16 (Biochemical Methods)

IT Computer application

Databases

Electrophoresis

Fluorescent indicators

Fluorometry

HPLC

High-performance gel-permeation chromatography

Ion exchange HPLC
Mass spectrometry
Molecular weight
Reversed phase HPLC
Separation
Surfactants

Tandem mass spectrometry

(method for detecting/isolating/identifying expressed minute proteins/peptides by combination of fluorescent labeling, HPLC, enzymic hydrolysis and MS)

IT 664985-43-7P 664985-44-8P 736926-37-7P 743418-72-6P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(method for detecting/isolating/identifying expressed minute proteins/peptides by combination of fluorescent labeling, HPLC, enzymic hydrolysis and MS)

IT 134963-05-6P, 4-Fluoro-2,1,3-benzothiadiazole

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(method for detecting/isolating/identifying expressed minute proteins/peptides by combination of fluorescent labeling, HPLC, enzymic hydrolysis and MS)

L65 ANSWER 6 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:857833 HCAPLUS

DOCUMENT NUMBER: 141:340150

TITLE: Organic electroluminescent device and manufacturing method

INVENTOR(S): Hirayama, Yasuko; Sano, Takeshi; Sakakibara, Takahisa

PATENT ASSIGNEE(S): Sanyo Electric Co. Ltd., Japan

SOURCE: PCT Int. Appl., 75 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004089043	A1	20041014	WO 2004-JP4104	20040324

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2004319440 A2 20041111 JP 2004-55397

20040227

JP 2004319441

A2

20041111

JP 2004-55398

200402
27

US 2005147842

A1

20050707

US 2003-505677

200403
24

PRIORITY APPLN. INFO.:

JP 2003-97308

A

200303
31

JP 2004-55397

A

200402
27

WO 2004-JP4104

W

200403
24

AB An org. electroluminescent device is formed by stacking a plurality of layers, each of which is composed of a polymer material which is sol. to an org. solvent. The polymer material used for a foundation layer has a larger mol. wt. than the polymer material used for a layer formed on the foundation layer. The org. solvent into which the polymer material for the foundation layer is dissolved has a larger relative dielec. const. than the org. solvent into which the polymer material for the upper layer is dissolved. When the foundation layer serves as a light-emitting layer and the upper layer serves as an electron-transporting layer, the electron-transporting layer may preferably contain a polymer material having hole-blocking properties. In such a case where the foundation layer serves as the light-emitting layer and the upper layer serves as the electron-transporting layer, it is also preferable that repeating units of the polymer material of the light-emitting layer and those of the polymer material of the electron-transporting layer have the same skeletons.

IT 316825-94-2

RL: DEV (Device component use); PRP (Properties); USES (Uses)
(org. electroluminescent device and manufg. method)

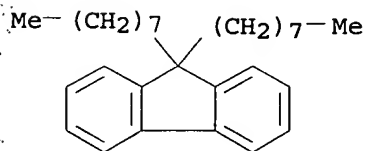
RN 316825-94-2 HCAPLUS

CN 2,1,3-Benzothiadiazole, polymer with 9,9-dioctyl-9H-fluorene (9CI)
(CA INDEX NAME)

CM 1

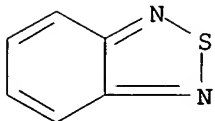
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CMF C29 H42



CM 2

CRN 273-13-2
CMF C6 H4 N2 S



IC ICM H05B033-14
ICS H05B033-10; H05B033-22; C09K011-06; C08L065-00
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
IT 25067-59-8 49718-51-6 126213-51-2 138184-36-8, MEH-PPV
195456-48-5, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl)
316825-94-2 369370-71-8 474975-19-4 475101-36-1
738610-65-6 773895-96-8 773895-97-9 773895-98-0
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(org. electroluminescent device and manufg. method)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L65 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:648315 HCAPLUS
DOCUMENT NUMBER: 141:179622
TITLE: Controlled release pharmaceutical compositions
containing polymers
INVENTOR(S): Kannan, Muthaiyyan Esakki; Krishnan, Anandi;
Sapre, Beena Amol; Shah, Chitra; Patil, Atul
PATENT ASSIGNEE(S): Glenmark Pharmaceuticals Ltd., India
SOURCE: PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004066910	A2	20040812	WO 2004-IB274	20040126

WO 2004066910 C1 20041007
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
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AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
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SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

US 2004185097 A1 20040923 US 2004-762180
200401
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CA 2493899 AA 20040812 CA 2004-2493899
200401
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EP 1599190 A2 20051130 EP 2004-705137
200401
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
SK

PRIORITY APPLN. INFO.: IN 2003-MU132 A
200301
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US 2003-517589P P
200311
05

IN 2003-MU130 A
200301
31

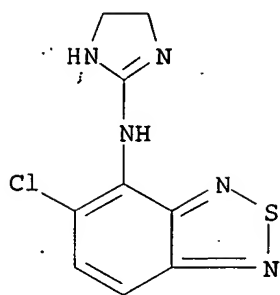
WO 2004-IB274 W
200401
26

AB A solid controlled release pharmaceutical compn. suitable comprises
a drug, a primary release-modifying agent, a secondary
release-modifying agent and an auxiliary release-modifying agent,
which are present in amts. that synergistically extend the release
of the active ingredient. Thus, tablets contained nicotinic acid
500.00, PEG (mol. wt. 4,000,000) 170.0,
retrograde starch 40.00, lactose monohydrate 30.00, talc 5.00, and
Mg stearate 5.00 mg, and water qs.

IT 64461-82-1, Tizanidine hydrochloride
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(controlled release pharmaceutical compns. contg. polymers)

RN 64461-82-1 HCAPLUS

CN 2,1,3-Benzothiadiazol-4-amine, 5-chloro-N-(4,5-dihydro-1H-imidazol-2-
yl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

IC ICM A61K
 CC 63-6 (Pharmaceuticals)
 IT Antibacterial agents
 Binders
 Coating materials
 Dissolution
 Fillers
 Lubricants

Molecular weight distribution

(controlled release pharmaceutical compns. contg. polymers)

IT 40034-42-2, Rosoxacin 42835-25-6, Flumequine 50370-12-2,
 Cefadroxil 50972-17-3, Bacampicillin 51022-70-9, Salbutamol
 sulfate 51023-56-4, Ormeloxifene hydrochloride 51481-61-9,
 Cimetidine 51627-14-6, Cefatrizine 51762-05-1, Cefroxadine
 51940-44-4, Pipemidic Acid 52152-93-9, Cefsulodin Sodium
 53152-21-9, Buprenorphine hydrochloride 53994-73-3, Cefaclor
 54965-24-1, Tamoxifen citrate 55268-75-2, Cefuroxime 55881-07-7,
 Miocamycin 56187-47-4, Cefazedone 56238-63-2, Cefuroxime sodium
 56392-17-7, Metoprolol tartrate 56796-20-4, Cefmetazole
 57432-61-8, Methylergometrine maleate 57808-66-9, Domperidone
 58665-96-6, Cefazaflur 59729-33-8, Citalopram 60925-61-3,
 Ceforanide 61270-58-4, Cefonicid 61622-34-2, Cefotiam
 62571-86-2, Captopril 62893-19-0, Cefoperazone 63358-49-6,
 Aspxicillin 63469-19-2, Apalcillin 63527-52-6, Cefotaxime
 64024-15-3, Pentazocine hydrochloride 64044-51-5
 64461-82-1, Tizanidine hydrochloride 64544-07-6,
 Cefuroxime Axetil 65085-01-0, Cefmenoxime 65243-33-6, Cefetamet
 Pivoxil 65277-42-1, Ketoconazole 66357-59-3, Ranitidine
 hydrochloride 68401-81-0, Ceftizoxime 68844-77-9, Astemizole
 69351-57-1, Dexamethasone hydrochloride 69712-56-7, Cefotetan
 70458-92-3, Pefloxacin 70458-96-7, Norfloxacin 70797-11-4,
 Cefpiramide 72558-82-8, Ceftazidime 73384-59-5, Ceftriaxone
 73590-58-6, Omeprazole 73963-72-1, Cilostazol 74011-58-8,
 Enoxacin 74014-51-0, Rokitamycin 74978-16-8, Magaldrate
 76095-16-4, Enalapril maleate 76470-66-1, Loracarbef 76610-84-9,
 Cefbuperazone 77360-52-2, Ceftiolene 78110-38-0, Aztreonam
 79350-37-1, Cefixime 79660-72-3, Fleroxacin 79794-75-5,
 Loratadine 79902-63-9, Simvastatin 80210-62-4, Cefpodoxime
 80214-83-1, Roxithromycin 81103-11-9, Clarithromycin 82219-78-1,
 Cefuzonam 82419-36-1, Ofloxacin 82547-81-7, Cefteram Pivoxil
 82664-20-8, Flurithromycin 83905-01-5, Azithromycin 84305-41-9,
 Cefminox 84625-61-6, Itraconazole 84880-03-5, Cefpimizole

84957-29-9, Cefpirome 84957-30-2, Cefquinome 85721-33-1,
 Ciprofloxacin 86329-79-5, Cefodizime Sodium 86386-73-4,
 Fluconazole 86393-37-5, Amifloxacin 87239-81-4, Cefpodoxime
 Proxetil 88040-23-7, Cefepime 91832-40-5, Cefdinir 92665-29-7,
 Cefprozil 93106-60-6, Enrofloxacin 93107-08-5, Ciprofloxacin
 hydrochloride 93479-97-1, Glimepiride 97240-79-4, Topiramate
 97519-39-6, Ceftibuten 98079-51-7, Lomefloxacin 98418-47-4,
 Metoprolol succinate 99294-93-6, Zolpidem tartrate 100490-36-6,
 Tosufloxacin 100643-71-8, Desloratadine 100986-85-4,
 Levofloxacin 101363-10-4, Rufloxacin 102767-28-2, Levetiracetam
 105816-04-4, Nateglinide 107133-36-8, Perindopril erbumine
 108319-06-8, Temafloxacin 110871-86-8, Sparfloxacin 112811-59-3,
 Gatifloxacin 112885-41-3, Mosapride 113981-44-5 117211-03-7,
 Cefetecol 119141-88-7, Esomeprazole 119914-60-2, Grepafloxacin
 130018-87-0 132866-11-6, Lercanidipine hydrochloride
 134523-00-5, Atorvastatin 135062-02-1, Repaglinide 147059-72-1,
 Trovafloxacin 151096-09-2, Moxifloxacin 165800-03-3, Linezolid
 175463-14-6, Gemifloxacin 181695-72-7, Valdecocix 287714-41-4,
 Rosuvastatin 733804-86-9

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (controlled release pharmaceutical compns. contg. polymers)

L65 ANSWER 8 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:293260 HCAPLUS

DOCUMENT NUMBER: 140:329268

TITLE: Polymeric fluorescent substance, process for
 producing the same, and organic
 electroluminescent element

INVENTOR(S): Suzuki, Satoshi

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 16 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

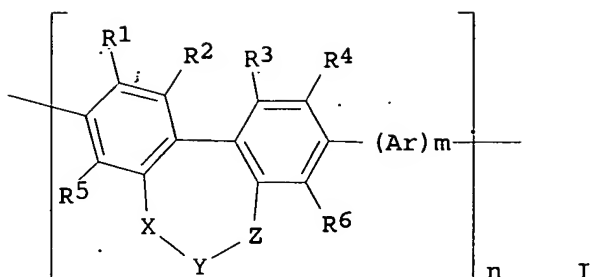
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004067388	A1	20040408	US 2003-667563	200309 22
JP 2004115587	A2	20040415	JP 2002-277684	200209 24
GB 2395198	A1	20040519	GB 2003-22375	200309 24
GB 2395198	B2	20060125	JP 2002-277684	200209 24

GI



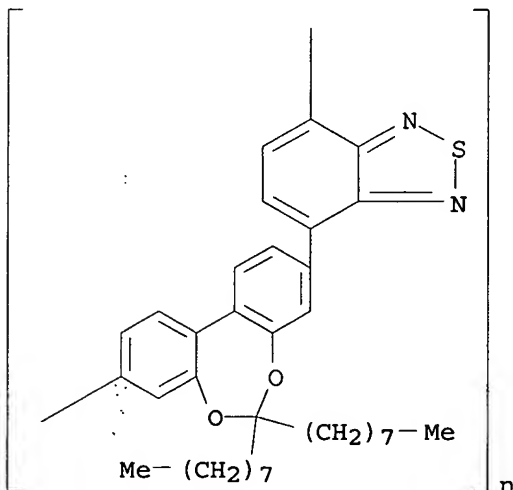
AB Polymeric fluorescent substances are described which comprise ≥ 1 type of repeating units are described by the general formula I and having a no. av. mol. wt. of 103 to 108 as detd. using polystyrene as a std. (Ar = a C6-60 arylene group or a C4-60 heterocyclic compd. group; X, Y, and Z = ≥ 1 of O, S, carbonyl, -C(R)2-, and -NR-; R and R-6 = independently selected H, C1-20 alkyl, C1-20 alkoxy, C1-20 alkylthio, C1-60 alkylsilyl, C1-40 alkylamino, C6-60 aryl, C7-60 arylalkyl, C7-60 arylalkoxy, C8-60 arylalkynyl, an C6-60 arylamino, C4-60 heterocyclic compd., cyano, nitro, and halo groups; m = 0 or 1; and n = value necessary for meeting the requirement of the no. av. mol. wt.). Methods for producing the compds. by polymn. of appropriate monomers are also described, as are electroluminescent devices employing them.

IT 678196-25-3 678196-32-2

RL: DEV (Device component use); USES (Uses)
(polymeric fluorescent substances and their prodn. and org.
electroluminescent devices using them)

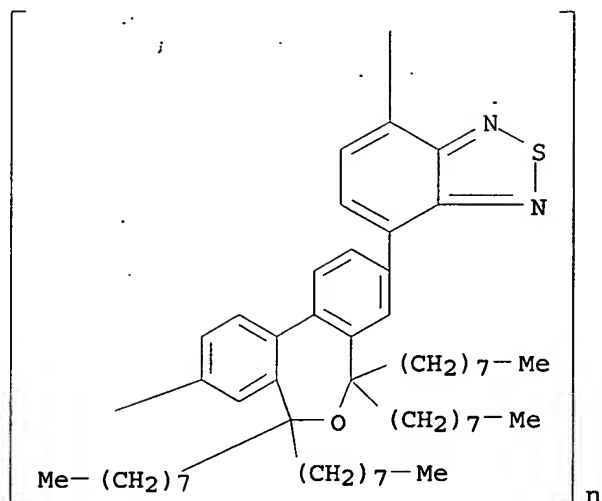
RN 678196-25-3 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl)] (9CI) (CA INDEX NAME)



RN 678196-32-2 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)] (9CI) (CA INDEX NAME)



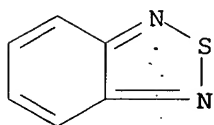
IC ICM H05B033-14
ICS C09K011-06; C08G061-00
INCL 428690000; 428917000; 313504000; 313506000; 257040000; 252301350;
528403000
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)
Section cross-reference(s): 38, 76
IT 678196-23-1 678196-24-2 678196-25-3 678196-26-4
678196-27-5 678196-28-6 678196-29-7 678196-30-0 678196-31-1
678196-32-2 678196-33-3 678196-34-4 678196-35-5
678196-36-6
RL: DEV (Device component use); USES (Uses)
(polymeric fluorescent substances and their prodn. and org.
electroluminescent devices using them)

L65 ANSWER 9 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:985018 HCAPLUS
DOCUMENT NUMBER: 140:284435
TITLE: Plant defense activators inducing systemic
resistance in Zingiber officinale Rosc. against
Pythium aphanidermatum (Edson) Fitz.
AUTHOR(S): Karmakar, N. C.; Ghosh, Rajyasri; Purkayastha,
R. P.
CORPORATE SOURCE: Department of Botany, University of Calcutta,
Kolkata, 700 019, India
SOURCE: Indian Journal of Biotechnology (2003
, 2(4), 591-595
CODEN: IJBNAJ; ISSN: 0972-5849
PUBLISHER: National Institute of Science Communication
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Selected plant defense activators were employed to induce systemic
resistance in a susceptible cultivar of ginger against Pythium
aphanidermatum (Edson) Fitz., a severe rhizome rot causing pathogen.
Among the 6 cultivars of ginger tested, Varada was most susceptible,
followed by Suprabha and Maran. Prior to sowing, soaking of rhizome
seeds for 1 h in 5 mM salicylic acid (SA), DL-β-aminobutyric
acid (BABA) or 2,1,3-benzothiadiazole (BTH), significantly reduced

the disease. Systemic protection against disease was evident even after 8 wk of treatment. Anal. of leaf proteins of non-inoculated, inoculated and activator-treated both non-inoculated and inoculated plants (cv. Suprabha) by SDS-PAGE and Image Master VDS-ID gel anal. version 3.0 showed 18 protein bands including 3-5 defense related proteins having mol. masses 67, 56, 32, 30 and 14 kDa. These defense proteins increased in activator-treated inoculated plants and enhanced the resistance against *P. aphanidermatum*. In vitro growth response of *P. aphanidermatum* to different conc. of SA, BABA and BTH was tested. SA and BABA, resp. were the most and least inhibitory to the fungus.

IT 273-13-2, 2,1,3-Benzothiadiazole
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(plant defense activators inducing systemic resistance in
Zingiber officinale against Pythium aphanidermatum)
RN 273-13-2 HCAPLUS
CN 2,1,3-Benzothiadiazole (7CI, 8CI, 9CI) (CA INDEX NAME)

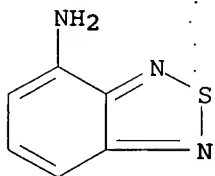


CC 11-5 (Plant Biochemistry)
Section cross-reference(s): 10
IT 69-72-7, Salicylic acid, biological studies 273-13-2,
2,1,3-Benzothiadiazole 541-48-0, DL-β-Aminobutyric acid
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(plant defense activators inducing systemic resistance in
Zingiber officinale against Pythium aphanidermatum)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

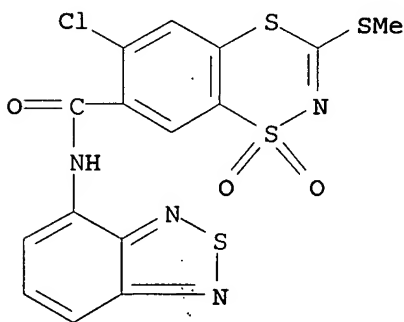
L65 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:926830 HCAPLUS
DOCUMENT NUMBER: 140:217607
TITLE: Synthesis, structural characterization and in
vitro antitumor activity of 4-
dimethylaminopyridinium (6-chloro-1,1-dioxo-
1,4,2-benzodithiazin-3-yl)methanides
AUTHOR(S): Brzozowski, Zdzislaw; Saczewski, Franciszek;
Gdaniec, Maria
CORPORATE SOURCE: Department of Chemical Technology of Drugs,
Medical University of Gdansk, Gdansk, 80-416,
Pol.
SOURCE: European Journal of Medicinal Chemistry (2003), 38(11-12), 991-999
CODEN: EJMCA5; ISSN: 0223-5234
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:217607
AB A novel series of low mol. wt. cancer-specific
antitumor agents with aminium N-(1,1-dioxo-1,4,2-benzodithiazin-3-
yl)arylsulfonamidate structure has been reported. In an attempt to
det. some of the structural features that account for the cytotoxic

activity of such aminium salts, a novel series of 4-dimethylaminopyridinium (1,1-dioxo-1,4,2-benzodithiazin-3-yl)methanides was synthesized from 3-methylthio-1,4,2-benzodithiazine 1,1-dioxides by reaction with 4-DMAP and some active methylené compds. The in vitro antitumor activity of these compds. has been tested in the National Cancer Institute (NCI), and relationships between structure and antitumor activity are discussed. Among the aminium salts 4-dimethylamino-pyridinium (4-chlorobenzoyl) (cyano) (6-chloro-7-methyl-1,1-dioxo-1,4,2-benzodithiazin-3-yl)methanide was superior to other pyridinium salts in terms of both remarkable activity (log GI50 and log TGI<-8.00) and high selectivity for the lung HOP-92 and melanoma UACC-257 cell lines.

IT 767-64-6, 2,1,3-Benzothiadiazol-4-amine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. and in vitro antitumor activity of
 (dimethylamino)pyridinium (chlorodioxobenzodithiazinyl)methanides
)
 RN 767-64-6 HCAPLUS
 CN 2,1,3-Benzothiadiazol-4-amine (9CI) (CA INDEX NAME)



IT 663954-41-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and in vitro antitumor activity of
 (dimethylamino)pyridinium (chlorodioxobenzodithiazinyl)methanides
)
 RN 663954-41-4 HCAPLUS
 CN 1,4,2-Benzodithiazine-7-carboxamide, N-2,1,3-benzothiadiazol-4-yl-6-chloro-3-(methylthio)-, 1,1-dioxide (9CI) (CA INDEX NAME)



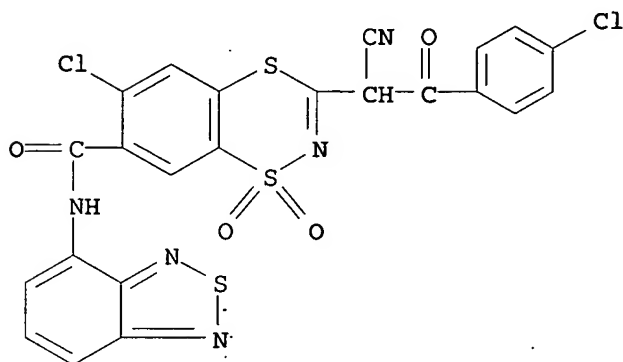
IT 663954-59-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and in vitro antitumor activity of
 (dimethylamino)pyridinium (chlorodioxobenzodithiazinyl)methanides
)
 RN 663954-59-4 HCAPLUS

CN 1,4,2-Benzodithiazine-7-carboxamide, N-2,1,3-benzothiadiaazol-4-yl-6-chloro-3-[2-(4-chlorophenyl)-1-cyano-2-oxoethyl]-, 1,1-dioxide, compd. with N,N-dimethyl-4-pyridinamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 663954-58-3

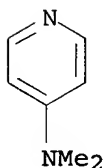
CMF C23 H11 Cl2 N5 O4 S3



CM 2

CRN 1122-58-3

CMF C7 H10 N2



CC 28-20 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1, 75

IT 67-52-7, Barbituric acid 105-56-6, Cyanoacetic acid ethyl ester
109-77-3, Propanedinitrile 504-17-6, Thiobarbituric acid
614-16-4, β -Oxobenzenepropanenitrile 767-64-6,
2,1,3-Benzothiadiaazol-4-amine 838-57-3 1122-58-3,
N,N-Dimethyl-4-pyridinamine 4640-66-8, 4-Chloro- β -
oxobenzenepropanenitrile 7169-34-8, 3(2H)-Benzofuranone
90767-54-7 95792-63-5 113922-99-9 156775-41-6 156775-50-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and in vitro antitumor activity of
(dimethylamino)pyridinium (chlorodioxobenzodithiazinyl)methanides
)

IT 663954-41-4P 663954-69-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. and in vitro antitumor activity of
(dimethylamino)pyridinium (chlorodioxobenzodithiazinyl)methanides
)

IT 663954-53-8P 663954-55-0P 663954-57-2P 663954-59-4P

663954-61-8P 663954-63-0P 663954-65-2P 663954-67-4P
663954-68-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and in vitro antitumor activity of
(dimethylamino)pyridinium (chlorodioxobenzodithiazinyl)methanides
)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:396255 HCAPLUS

DOCUMENT NUMBER: 138:406917

TITLE: Buccal sprays or capsules containing drugs for
treating disorders of the gastrointestinal or
urinary tracts

INVENTOR(S): Dugger, Harry A., III

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of
U.S. Ser. No. 537,118.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 19

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003095926	A1	20030522	US 2002-230085	20020829
WO 9916417	A1	19990408	WO 1997-US17899	19971001
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
EP 1029536	A1	20000823	EP 2000-109347	19971001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1036561	A1	20000920	EP 2000-109357	19971001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2497112	AA	20040311	CA 2003-2497112	20030827

WO 2004019910 A2 20040311 WO 2003-US26854
200308
27

WO 2004019910 A3 20040729
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA,
ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG

AU 2003272242 A1 20040319 AU 2003-272242
200308
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EP 1534242 A2 20050601 EP 2003-754415
200308
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
SK
JP 2006506342 T2 20060223 JP 2004-531570
200308
27

US 2004136914 A1 20040715 US 2003-671717
200309
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US 2004136915 A1 20040715 US 2003-671719
200309
29

US 2005025716 A1 20050203 US 2004-928996
200408
27

PRIORITY APPLN. INFO.: WO 1997-US17899 A2
199710
01

US 2000-537118 A2
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EP 1997-911621 A3
199710
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US 2002-230085 A
200208
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WO 2003-US26854

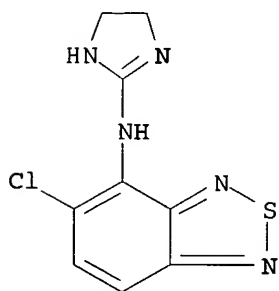
W 200308
27

AB Buccal aerosol sprays or capsules using polar and non-polar solvent have now been developed which provide biol. active compds. for rapid absorption through the oral mucosa, resulting in fast onset of effect. The buccal polar compns. of the invention comprise formulation I: aq. polar solvent, active compd., and optional flavoring agent; formulation II: aq. polar solvent, active compd., optionally flavoring agent, and propellant; formulation III: non-polar solvent, active compd., and optional flavoring agent; and formulation IV: non-polar solvent, active compd., optional flavoring agent, and propellant. A lingual spray contained famotidine 7-20, water 5-10, L-aspartic acid 5-10, polyethylene glycol 50-85, and flavors 2-5%.

IT 51322-75-9, Tizanidine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(buccal sprays or capsules contg. drugs for treating disorders of gastrointestinal or urinary tracts)

RN 51322-75-9 HCAPLUS

CN 2,1,3-Benzothiadiazol-4-amine, 5-chloro-N-(4,5-dihydro-1H-imidazol-2-yl)- (9CI) (CA INDEX NAME)



IC ICM A61K009-00
ICS A61L009-04; A61K038-43

INCL 424043000; X42-4 9.41

CC 63-6 (Pharmaceuticals)

IT Antibiotics
Antidiarrheals
Antidiuretics
Antiemetics
Antiulcer agents
Antiviral agents
Calculi, biliary
Diarrhea
Digestive tract, disease
Diuresis
Flavoring materials
Fungicides
Molecular weight distribution
Nausea
Polar solvents
Propellants (sprays and foams)
Sweetening agents
Ulcer

Urinary system, disease

Vomiting

(buccal sprays or capsules contg. drugs for treating disorders of gastrointestinal or urinary tracts)

IT 50-49-7, Imipramine 50-56-6, Oxytocin, biological studies
51-34-3, Hyoscine 51-55-8, Atropine 52-01-7, Spironolactone
54-31-9, Furosemide 57-41-0, Phenytoin 58-38-8, Prochlorperazine
58-54-8, Ethacrynic acid 58-55-9, Theophylline, biological studies
58-93-5, Hydrochlorothiazide 58-94-6, Chlorothiazide 59-66-5,
Acetazolamide 60-87-7, Promethazine 73-48-3 73-49-4,
Quinethazone 77-19-0, Dicyclomine 77-36-1, Chlorthalidone
91-33-8, Benzthiazide 114-07-8, Erythromycin 128-13-2, Ursodiol
133-67-5, Trichlormethiazide 135-07-9, Methyclothiazide
135-09-1, Hydroflumethiazide 138-56-7, Trimethobenzamide
147-24-0, Diphenhydramine hydrochloride 298-50-0, Propantheline
346-18-9, Polythiazide 364-62-5, Metoclopramide 396-01-0,
Triamterene 523-87-5, Dimenhydrinate 569-65-3, Meclizine
630-93-3, Phenytoin sodium 745-65-3, PGE1 915-30-0,
Diphenoxylate 1134-47-0, Baclofen 3239-45-0, Dexfenfluramine
hydrochloride 5633-20-5, Oxybutynin 5786-21-0, Clozapine
6809-52-5, Teprenone 7440-69-9, Bismuth, biological studies
7683-59-2, Isoproterenol 8049-47-6, Pancreatin 9001-62-1, Lipase
9004-10-8, Insulin, biological studies 9025-35-8,
 α -Galactosidase 9073-56-7, α -L-Iduronidase
10238-21-8, Glyburide 12174-11-7, Attapulgate 15722-48-2,
Olsalazine 16679-58-6, Desmopressin 23031-25-6, Terbutaline
23031-32-5, Terbutaline sulfate 25322-68-3, Polyethylene glycol
28395-03-1, Bumetanide 30516-87-1, Zidovudine 33159-27-2, Ecabet
35700-23-3, Carboprost 47931-85-1, Salmon calcitonin 51022-70-9,
Albuterol sulfate 51322-75-9, Tizanidine 51481-61-9,
Cimetidine 53179-11-6, Loperamide 54182-58-0, Sucralfate
56211-40-6, Torsemide 58551-69-2, Carboprost tromethamine
59122-46-2, Misoprostol 59865-13-3, Cyclosporine 66357-35-5,
Ranitidine 70059-30-2, Cimetidine hydrochloride 73590-58-6,
Omeprazole 76824-35-6, Famotidine 79517-01-4, Sandostatin
89565-68-4, Tropisetron 93107-08-5, Ciprofloxacin hydrochloride
99614-01-4, Ondansetron hydrochloride 99614-02-5, Ondansetron
102625-70-7, Pantoprazole 103577-45-3, Lansoprazole 103628-48-4,
Sumatriptan succinate 109889-09-0, Granisetron 115956-12-2,
Dolasetron 117976-89-3, Rabeprazole 119141-88-7, Esomeprazole
119618-22-3, S-Oxybutynin 122852-42-0, Alosetron 124937-52-6,
Detrol 132373-81-0, Vamicamide 133099-04-4, Darifenacin
133107-64-9, Insulin lispro 135729-61-2, Palonosetron
143003-46-7, Alglucerase 154248-97-2, Imiglucerase 214415-55-1
516482-86-3, Sermorelin acetate

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(buccal sprays or capsules contg. drugs for treating disorders of gastrointestinal or urinary tracts)

L65 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:394564 HCAPLUS

DOCUMENT NUMBER: 139:117758

TITLE: New Soluble Poly(aryleneethynylene)s Consisting
of Electron-Accepting Benzothiadiazole Units and
Electron-Donating Dialkoxybenzene Units.
Synthesis, Molecular Assembly, Orientation on
Substrates, and Electrochemical and Optical
Properties

AUTHOR(S): Yamamoto, Takakazu; Fang, Qiang; Morikita,
Takashi

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

CORPORATE SOURCE: Chemical Resources Laboratory, Tokyo Institute of Technology, Yokohama, 226-8503, Japan
 SOURCE: Macromolecules (2003), 36(12), 4262-4267
 CODEN: MAMOBX; ISSN: 0024-9297
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A new class of poly(aryleneethynylene)s contg. an aryl heterocyclic structure were prepd. in the yield of higher than 80% by polycondensation between 4,7-dibromo-2,1,3-benzothiadiazole and 2,5-dialkoxy-1,4-diethynylbenzenes with different long side chains using Pd(PPh₃)₄ and CuI as the catalysts in the presence of triethylamine. All these polymers had a no.-av. mol. wt., Mn, higher than 12,000 and showed good soly. in chloroform. The polymers were photoluminescent in chloroform and showed metallic luster in the solid state. X-ray diffraction patterns of the powder and cast film (on a platinum plate) of the polymers revealed that the polymers assumed a π -stacked structure in the solid state, and the polymer mols. in the film were ordered on the surface of the platinum plate.

IT 359849-34-6P 403820-83-7P 561301-44-8P

561301-54-0P 561301-57-3P 561301-61-9P

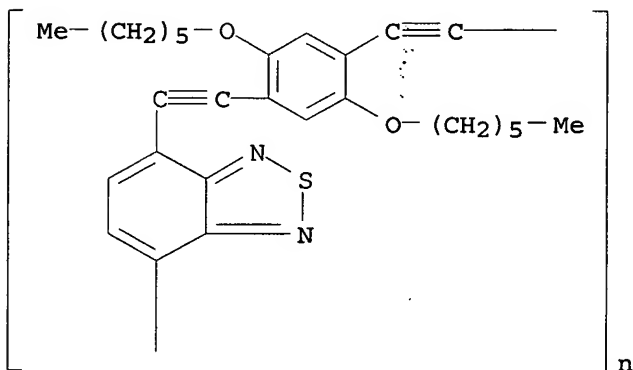
561301-64-2P 561301-68-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis, structure, electrochem. and optical characteristics of benzothiadiazole-contg. poly(aryleneethynylenes))

RN 359849-34-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-1,2-ethynediyl[2,5-bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



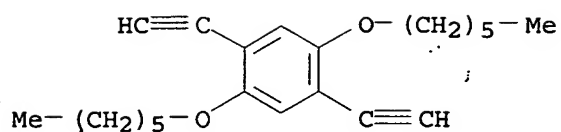
RN 403820-83-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with 1,4-diethynyl-2,5-bis(hexyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 128424-37-3

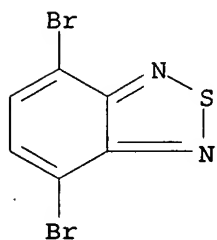
CMF C22 H30 O2



CM 2

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



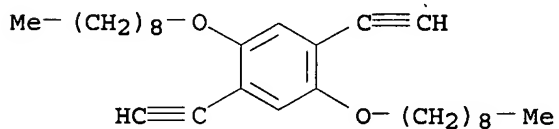
RN 561301-44-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with
1,4-diethynyl-2,5-bis(nonyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 345372-09-0

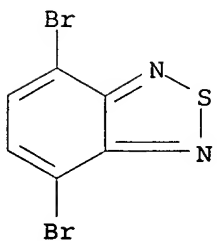
CMF C28 H42 O2



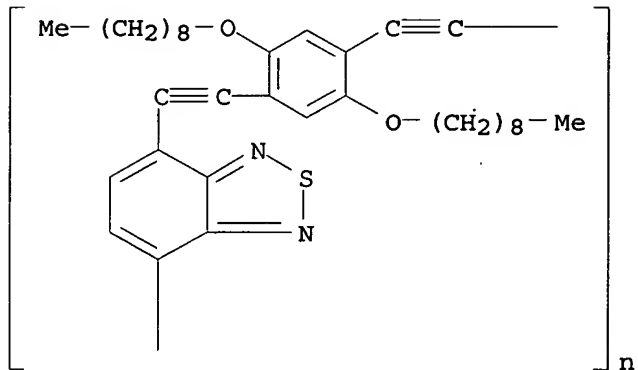
CM 2

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



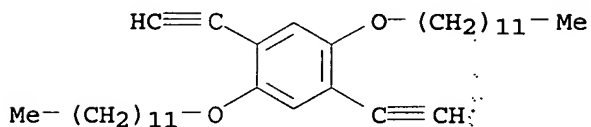
RN 561301-54-0 HCAPLUS
 CN Poly[2,1,3-benzothiadiazole-4,7-diyl-1,2-ethynediyl[2,5-bis(nonyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 561301-57-3 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with 1,4-bis(dodecyloxy)-2,5-diethynylbenzene (9CI) (CA INDEX NAME)

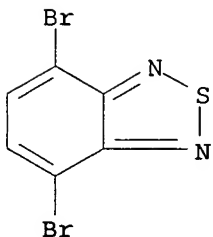
CM 1

CRN 152270-00-3
 CMF C34 H54 O2

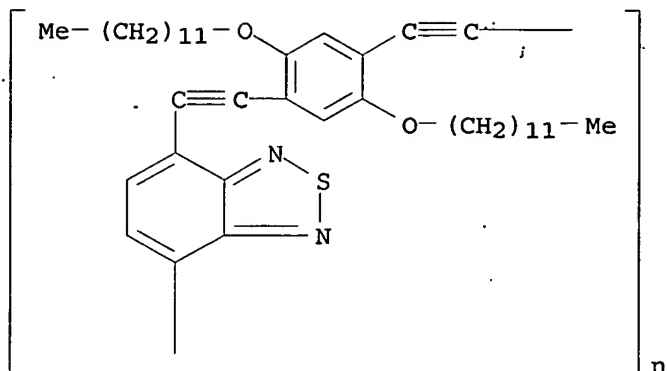


CM 2

CRN 15155-41-6
 CMF C6 H2 Br2 N2 S



RN 561301-61-9 HCAPLUS
 CN Poly[2,1,3-benzothiadiazole-4,7-diyl-1,2-ethynediyl[2,5-bis(dodecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)

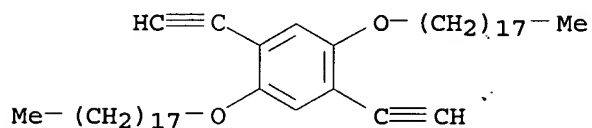


RN 561301-64-2 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with
 1,4-diethynyl-2,5-bis(octadecyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 128424-46-4

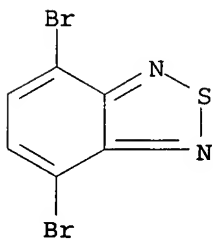
CMF C46 H78 O2



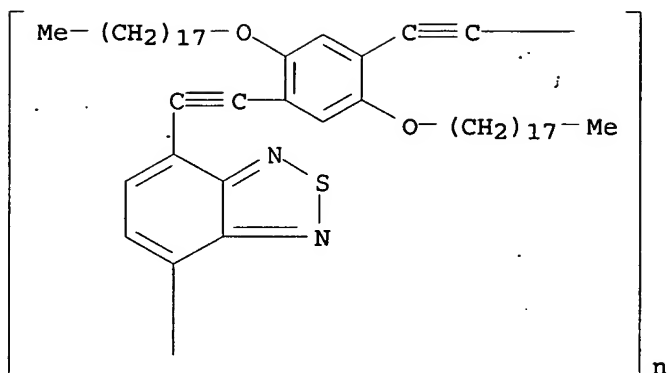
CM 2

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



RN 561301-68-6 HCAPLUS
 CN Poly[2,1,3-benzothiadiazole-4,7-diyl-1,2-ethynediyl[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 76

IT 359849-34-6P 403820-83-7P 561301-44-8P

561301-54-0P 561301-57-3P 561301-61-9P

561301-64-2P 561301-68-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis, structure, electrochem. and optical characteristics of benzothiadiazole-contg. poly(aryleneethynylenes))

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L65 ANSWER 13 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:235946 HCAPLUS

DOCUMENT NUMBER: 140:5467

TITLE: Poly(fluorene-co-benzothiadiazole)s: Effect of structure, molecular weight and polydispersity on their performance in polymer light-emitting diodes

AUTHOR(S): Herguth, Petra; Jiang, Xuezhong; Liu, Michelle S.; Jen, Alex K. Y.

CORPORATE SOURCE: Department of Materials Science and Engineering, Univ. of Washington, Seattle, WA, WA 98195-2120, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 4800(Organic Light-Emitting Materials and Devices VI), 138-147

CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Copolymers based on fluorene and benzothiadiazole exhibit high brightness and quantum efficiencies when incorporated into polymer light-emitting diodes (PLEDs). Their emission wavelength is strongly dependent on the benzothiadiazole-contg. segment of the polymer. However, the chain structure and charge-transport and -transfer processes in these materials are not well studied. We report the synthesis of a structural-random (r-PF3B) and a structural-defined (s-PF3B) copolymer, poly-fluorene-co-benzothiadiazole whereas the ratio of the two co-monomers was chosen to be 75% and 25%, resp. We have systematically investigated the

effect of structure on their photoluminescence (PL) and electroluminescence (EL) properties. Furthermore we have also studied the effect of mol. wt. and its distribution on the performance of the material in PL and EL. We have found that the absorption and emission spectra (PL and EL) of these polymers are quite independent of their structures, mol. wts., and polydispersity. However, the PL and EL efficiencies do vary with the materials studied. These materials were fabricated into a series of double-layer devices. Their external quantum efficiencies (ranging from 0.097% to 1.7%) and max. brightness (ranging from 153 to 23300 cd/m²) are highly dependent on the structure as well as the mol. wt. and polydispersity. The higher the mol. wt. and the narrower the distribution are, the higher the efficiency and brightness of the devices. Likewise, the structure of the polymer also influences the efficiency. It was found that the structural-random copolymer (r-PF3B) exhibits higher efficiencies and brightness when compared with the structural-defined one (s-PF3B) in the same mol. wt. range.

IT 628684-91-3P, 4,7-Dibromo-[2,1,3]-benzothiadiazole-2,7-dibromofluorene-(9,9-Dihexyl-2,7-fluorene-diyl)bis-1,3,2-dioxaborolane copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(effect of structure, mol. wt. and polydispersity on their performance in poly(fluorene-co-benzothiadiazole) light-emitting diodes)

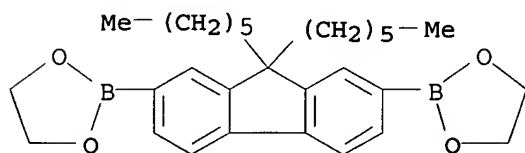
RN 628684-91-3 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with 2,7-dibromo-9H-fluorene and 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 251981-85-8

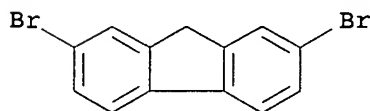
CMF C29 H40 B2 O4



CM 2

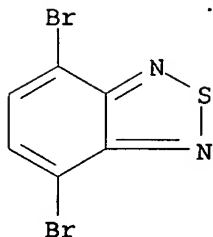
CRN 16433-88-8

CMF C13 H8 Br2



CM 3

CRN 15155-41-6
CMF C6 H2 Br2 N2 S



CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 35, 73
IT Brightening
Current density
Electric potential
Electroluminescent devices
Luminescence, electroluminescence
Molecular weight
Polydispersity
(effect of structure, mol. wt. and
polydispersity on their performance in poly(fluorene-co-
benzothiadiazole) light-emitting diodes)
IT Luminescence
(photoluminescence; effect of structure, mol.
wt. and polydispersity on their performance in
poly(fluorene-co-benzothiadiazole) light-emitting diodes)
IT 628684-91-3P, 4,7-Dibromo-[2,1,3]-benzothiadiazole-2,7-
dibromofluorene-(9,9-Dihexyl-2,7-fluorene-diyl)bis-1,3,2-
dioxaborolane copolymer
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(effect of structure, mol. wt. and
polydispersity on their performance in poly(fluorene-co-
benzothiadiazole) light-emitting diodes)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:232566 HCAPLUS
DOCUMENT NUMBER: 138:386060
TITLE: Influence of the Molecular
Weight on the Thermotropic Alignment of
Thin Liquid Crystalline Polyfluorene Copolymer
Films
AUTHOR(S): Banach, M. J.; Friend, R. H.; Sirringhaus, H.
CORPORATE SOURCE: Cavendish Laboratory, University of Cambridge,
Cambridge, CB3 0HE, UK
SOURCE: Macromolecules (2003), 36(8),
2838-2844
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

AB Mechanisms that limit the thermotropic alignment of a liq. crystal semiconducting polymer on a rubbed polyimide film were studied using three different mol. wts. of poly(9,9-dioctylfluorene-benzothiadiazole) (F8BT), a polyfluorene of interest for use in highly polarized light-emitting diodes and high-performance polymer-based transistors. The mol. wt. affects the melting temp. of the polymer, the speed at which the polymer aligns to a rubbed surface, and the ultimate mol. alignment that can be achieved. The alignment of F8BT with the highest mol. wt. was severely limited by the viscosity of the polymer, while films with low and intermediate mol. wts. reached a max. alignment in reasonable time. The max. satd. dichroic ratio (Dmax) was consistently higher, the largest Dmax obsd. was over 29, in the lowest mol. wt. films. Optical microscopy revealed that the lower dichroic ratio could be attributed to an inability of the domains in the higher mol. wt. film to reorient to the templating direction; thus, the final film retains a multidomain structure. This has serious implications on the charge transport through these materials since any domain boundaries will adversely affect the charge carrier mobility. Therefore, despite the advantages that higher mol. wts. could have on optoelectronic device performance, the long chain lengths will also limit macroscopic liq. cryst. alignment. For F8BT, the max. mol. wt. in which monodomain alignment is still achieved is 62,000-129,000.

IT 210347-52-7, F8BT

RL: PRP (Properties)

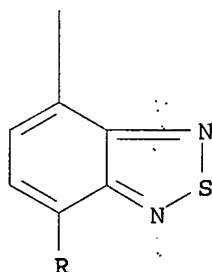
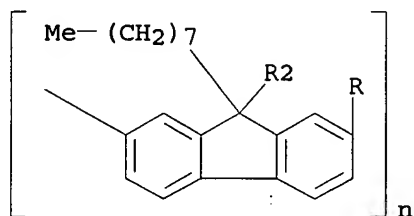
(influence of mol. wt. on thermotropic

alignment and dichroic ratio of thin liq. cryst. polyfluorene)

RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

(CH₂)₇-Me
R2

CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 75
ST dioctylfluorene benzothiadiazole copolymer mol wt
thermotropic alignment; liq crystal polyfluorene chain length
mol wt dichroic ratio
IT Polyimides, uses
RL: NUU (Other use, unclassified); USES (Uses)
(alignment surface; influence of mol. wt. on
thermotropic alignment and dichroic ratio of thin liq. cryst.
polyfluorene)
IT Fluorescence
Fusion enthalpy
Liquid crystals, polymeric
Molecular weight
Orientational order
Polarized light
UV and visible spectra
Viscosity
(influence of mol. wt. on thermotropic
alignment and dichroic ratio of thin liq. cryst. polyfluorene)
IT Molecular orientation
(thermotropic alignment; influence of mol. wt
. on thermotropic alignment and dichroic ratio of thin liq.
cryst. polyfluorene)
IT 210347-52-7, F8BT
RL: PRP (Properties)
(influence of mol. wt. on thermotropic
alignment and dichroic ratio of thin liq. cryst. polyfluorene)
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:153350 HCAPLUS
DOCUMENT NUMBER: 138:212568
TITLE: Organic electroluminescent device and method of
its preparation
INVENTOR(S): Kambe, Emiko; Shinkai, Masahiro
PATENT ASSIGNEE(S): TDK Corporation, Japan
SOURCE: Eur. Pat. Appl., 38 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1285957	A2	20030226	EP 2002-18381	200208 14

OTHER SOURCE(S) : MARPAT 138:212568

AB Org. electroluminescent devices comprising a cathode, an anode, and ≥ 2 stacked org. layers, including a light emitting layer, between the electrodes are described in which ≥ 1 layer of the org. layers is formed by coating, in which the org. layer disposed close to the cathode is an electron injecting org. layer contg. ≥ 1 compd. selected from org. metal salts and org. metal complexes of a metal having a std. electrode potential more neg. than -1.8 V at 25° and formed by coating, and an org. layer contg. a high mol. wt. electroluminescent material is disposed close to the electron injecting org. layer on the cathode side. Methods for fabricating the devices entailing using coating solns. formed using specified solvents are also described.

IT 210347-52-7

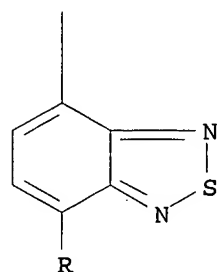
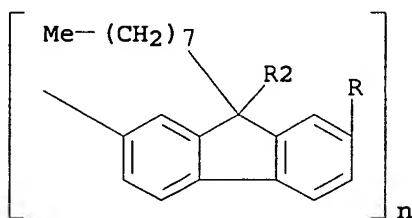
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(org. electroluminescent devices with layers formed by coating processes and their fabrication)

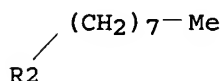
RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C09K011-06

ICS H05B033-14; H01L051-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

IT 543-80-6, Barium acetate 555-75-9, Aluminum triethoxide
 638-38-0, Manganese acetate 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 2914-17-2, Calcium ethoxide
 3504-40-3, Samarium isopropoxide 12084-29-6,
 Bis(acetylacetonato)barium, uses 15086-27-8, Aluminum triphenoxide
 15435-71-9, Sodium acetylacetonate, uses 19372-44-2,
 Bis(acetylacetonato)calcium, uses 19393-11-4, Potassium
 acetylacetonate, uses 23519-77-9, Tetrapropoxyzirconium
 25233-34-5, Polythiophene 25233-34-5D, Polythiophene, derivs.
 25387-93-3, (8-Quinolinolato)lithium 26009-24-5, Poly(p-phenylene
 vinylene) 26009-24-5D, Poly(p-phenylene vinylene), derivs.

26916-42-7 36501-19-6 66280-99-7, Poly(thienylene vinylene)
66280-99-7D, Poly(thienylene vinylene), derivs. 95270-88-5,
Polyfluorene 95270-88-5D, Polyfluorene, derivs. 117149-05-0,
Poly(naphthalenediyl-1,2-ethenediyl) 117149-05-0D,
Poly(naphthalenediyl-1,2-ethenediyl), derivs. 117501-02-7
117501-02-7D, derivs. 150405-69-9 203806-96-6
210347-52-7 404372-11-8 499977-05-8

RL: DEV (Device component use); PEP (Physical, engineering or
chemical process); PYP (Physical process); PROC (Process); USES
(Uses)

(org. electroluminescent devices with layers formed by coating
processes and their fabrication)

L65 ANSWER 16 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:831855 HCAPLUS

DOCUMENT NUMBER: 137:343667

TITLE: Polymeric fluorescent substance and polymer
light-emitting device using the same

INVENTOR(S): Doi, Shuji; Noguchi, Takano; Ueoka, Takahiro

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: Eur. Pat. Appl., 33 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1253180	A2	20021030	EP 2002-252973	20020426
<--				
EP 1253180	A3	20030122		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
TW 541855	B	20030711	TW 2002-91108053	20020419
<--				
US 2002185635	A1	20021212	US 2002-132466	20020426
<--				
JP 2003034715	A2	20030207	JP 2002-126178	20020426
<--				
PRIORITY APPLN. INFO.:		JP 2001-132423	A	20010427

AB Polymeric fluorescent substances showing fluorescence in the solid
state and having a polystyrene reduced no.-av. mol.
wts. of 103-108 are described which comprise (a) 10-90% of
≥1 1,4-phenylene repeating units having ≥1 substituent
(on ≥1 of the 2,3,5, and 6 positions) selected from alkoxy
groups, aryl groups substituted with an alkoxy group, aryloxy
groups, and arylalkoxy groups; and (b) ≥1 repeating units,

different from the unit(s) of a, selected from substituted phenylene groups (having ≥ 1 substituents other than alkoxy groups, aryl groups substituted with an alkoxy group, aryloxy groups and arylalkoxy groups), substituted stilbene groups (having on a benzene ring ≥ 1 groups selected from alkoxy groups, aryl groups substituted with an alkoxy group, aryloxy groups and arylalkoxy groups), distilbene group, condensed polycyclic arom. compd. groups, condensed polycyclic heterocyclic compd. groups, arom. amine compd. groups, and -Ar-Ar'-Ar''- groups (Ar, Ar', and Ar'' = independently selected arylene or divalent heterocyclic compd. groups). Polymer light-emitting devices employing the fluorescent polymers and flat light sources, segment displays, dot matrix displays, and liq. crystal displays employing the devices, are also described.

IT 473895-47-5P

RL: DEV (Device component use); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polymeric fluorescent substances and polymer light-emitting devices using them)

RN 473895-47-5 HCAPLUS

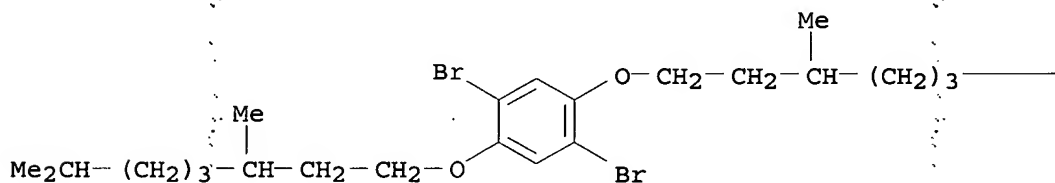
CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with
1,4-dibromo-2,5-bis[(3,7-dimethyloctyl)oxy]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 325461-28-7

CMF C26 H44 Br2 O2

PAGE 1-A



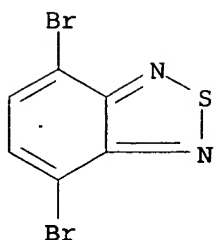
PAGE 1-B

— CHMe2

CM 2

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



IC ICM C09K011-06
 ICS H05B033-14; H01L051-20; C08G061-02; C08G061-10
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 74, 76
 IT 195456-48-5P, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) 286438-50-4P
 473895-36-2P 473895-37-3P 473895-38-4P 473895-40-8P
 473895-42-0P 473895-44-2P 473895-46-4P 473895-47-5P
 473895-48-6P
 RL: DEV (Device component use); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (polymeric fluorescent substances and polymer light-emitting devices using them)

L65 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:484863 HCAPLUS

DOCUMENT NUMBER: 137:47448

TITLE: Preparation of substituted phenylalaninol derivatives as protein tyrosine phosphatase inhibitors

INVENTOR(S): Larsen, Scott D.; May, Paul D.; Bleasdale, John E.; Liljebris, Charlotta; Schostarez, Heinrich Josef; Barf, Tjeerd; Nilsson, Marianne

PATENT ASSIGNEE(S): USA

SOURCE: U.S., 144 pp., Cont.-in-part of U.S. Ser. No. 138,642.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6410585	B1	20020625	US 1999-265410	19990310
US 6353023	B1	20020305	US 1998-138642	19980824
CA 2366308	AA	20000914	CA 2000-2366308	20000309
WO 2000053583	A1	20000914	WO 2000-US6022	

200003
09

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W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
 CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
 ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1161421 A1 20011212 EP 2000-917793

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO
 JP 2002539115 T2 20021119 JP 2000-604023

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AU 769511 B2 20040129 AU 2000-38711

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PRIORITY APPLN. INFO.: US 1997-57730P P

199708
28

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US 1998-138642 A2

199808
24

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US 1999-265410 A

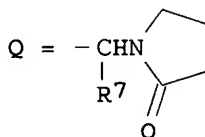
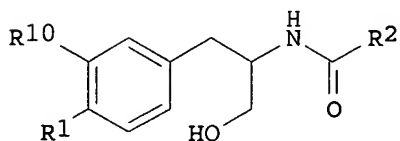
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WO 2000-US6022 W

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09

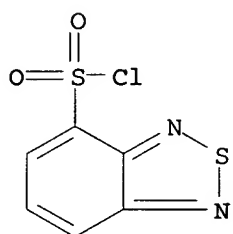
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OTHER SOURCE(S): MARPAT 137:47448
GI

AB The invention comprises phenylalaninol derivs., e.g., I [R1 = OSO3H, OCH(CO2R5)2, OCH2CO2R5, OCH(CO2R5)CH2CO2R5, OC(CO2R5):CHCO2R5, CH2CH(CO2R5)2, CH:C(CO2R5)2, OCH2CONHOH, N(CH2CO2R5)2, OCHFCO2R5 (R5 = H, alkyl, alkylphenyl); R2 = CHR7NHXR6, group Q (R6 = alkyl, alkyl-CONH2, alkyl-NHCO2R5, etc.; R7 = H, any group given for R6); R10 = H, CO2R5, CONHOH, 5-tetrazolyl, F, OCH2CO2R5], or their

pharmaceutically acceptable salts, as small mol. wt., non-peptidic inhibitors of protein tyrosine phosphatase 1 (PTP1) which are useful for the treatment and/or prevention of non-insulin dependent diabetes mellitus. Thus, 5-[(2S)-2-[[[(2S)-2-[(tert-butoxycarbonyl)amino]-3-phenylpropanoyl]amino]-3-hydroxypropyl]-2-(carboxymethoxy)benzoic acid (claimed compd.) was prepd. and showed 80% inhibition of protein tyrosine phosphatase 1B at a concn. of 10 μ M.

IT 73713-79-8, 2,1,3-Benzothiadiazole-4-sulfonyl chloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of substituted phenylalanine derivs. as protein tyrosine phosphatase inhibitors)
 RN 73713-79-8 HCAPLUS
 CN 2,1,3-Benzothiadiazole-4-sulfonyl chloride (6CI, 7CI, 9CI) (CA INDEX NAME)



IC ICM C07C235-00
 ICS C07C237-22; A61K031-165
 INCL 514424000
 CC 34-3 (Amino Acids, Peptides, and Proteins)
 Section cross-reference(s): 1, 7, 63
 IT 59-67-6, Nicotinic acid, reactions 64-04-0, Phenethylamine
 70-78-0, 3-Iodo-L-tyrosine 74-11-3, 4-Chlorobenzoic acid
 96-32-2, Methyl bromoacetate 98-09-9, Benzenesulfonyl chloride
 98-97-5, 2-Pyrazinecarboxylic acid 103-40-2, Monobenzyl succinate
 105-36-2, Ethyl bromoacetate 108-00-9, n,n-Dimethylethylenediamine
 108-30-5, Succinic anhydride, reactions 110-58-7, Amylamine
 120-20-7, 3,4-Dimethoxyphenethylamine 121-60-8, n-Acetylsulfanilyl chloride 123-08-0, 4-Hydroxybenzaldehyde 123-84-2, n 2
 Hydroxypropyl ethylenediamine 140-31-8, n 2 Aminoethyl piperazine
 141-43-5, Ethanolamine, reactions 142-61-0, Hexanoyl chloride
 403-90-7, 3-Fluoro-DL-tyrosine 488-93-7, 3-Furoic acid 501-52-0, Hydrocinnamic acid 588-63-6 616-30-8, 3-Amino-1,2-propanediol
 616-34-2, Glycine methyl ester 618-36-0, 1-Phenylethylamine
 623-47-2, Ethyl propiolate 652-18-6, 2,3,5,6-Tetrafluorobenzoic acid 658-48-0, DL- α -Methyltyrosine 762-42-5, Dimethyl acetylenedicarboxylate 1071-46-1, Ethyl hydrogen malonate
 1074-82-4, Potassium phthalimide 1138-56-3, 4-Butoxybenzenesulfonyl chloride 1164-16-5 1453-99-2 1460-16-8, Cycloheptanecarboxylic acid 1694-92-4, 2-Nitrobenzenesulfonyl chloride 1885-54-7 2018-61-3 2038-57-5, 3-Phenylpropylamine
 2050-92-2, Dipentylamine 2393-23-9, 4-Methoxybenzylamine
 2443-68-7, Hippuric acid hydrazide 2508-29-4, 5-Amino-1-pentanol
 2706-56-1, 2,2-Aminoethyl pyridine 2906-12-9, 3-Isopropoxypropylamine 2999-46-4, Ethyl isocyanoacetate
 3360-16-5, n-Isopropyl-1,3-propanediamine 3538-69-0 3731-52-0, 3-Pyridinemethanamine 3878-55-5, Monomethylsuccinate 3978-80-1
 3984-34-7 4048-33-3, 6-Amino-1-hexanol 4244-84-2, β -Alanine ethyl ester hydrochloride 4326-36-7 4382-54-1,

5-Methoxy-2-indolecarboxylic acid 4397-53-9, 4-
Benzyloxybenzaldehyde 4521-28-2 4762-26-9,
Hexyltriphenylphosphonium bromide 5326-23-8, 6-Chloronicotinic
acid 6436-90-4, N-Benzylglycine ethyl ester 7021-09-2,
2-(2-Methoxyphenyl)acetic acid 7154-73-6, 1-Pyrrolidineethanamine
7324-07-4, L-Norleucinamide 7663-77-6 7795-95-1, Octanesulfonyl
chloride 13214-66-9, 4-Phenylbutylamine 13325-10-5,
4-Amino-1-butanol 13734-34-4 13798-75-9 13918-92-8,
2,4-Difluorobenzenesulfonyl chloride 14064-10-9, Diethyl
chloromalonate 15014-25-2, Dibenzyl malonate 16397-19-6,
2-Amino-1-hexanol 16874-12-7, Tyrosine tert-butyl ester
18278-34-7, 4-Hydroxy-2-methoxybenzaldehyde 18704-37-5,
8-Quinolinesulfonyl chloride 22572-33-4 23359-08-2,
4-Formylcinnamic acid 24127-58-0 25419-06-1, n-Methylamylamine
26588-36-3, Naphthalenesulfonyl chloride 29869-77-0 33305-77-0,
N-tert-Butoxycarbonyl-4-nitro-L-phenylalanine 37976-44-6, Dibenzyl
acetylenedicarboxylate 41667-95-2, 5,6-Dichloronicotinic acid
49584-26-1, 4-Cyanobenzenesulfonyl chloride 49704-27-0
52147-97-4, trans- β -Styrenesulfonyl chloride 53448-09-2,
D-Leucinol 53587-11-4 60706-63-0, 2,3,5,6-
Tetramethylbenzenesulfonyl chloride 63624-28-2,
2,4-Dimethoxybenzenesulfonyl chloride 64318-28-1 65100-24-5,
Dibenzyl bromomalonate 73713-79-8, 2,1,3-Benzothiadiazole-
4-sulfonyl chloride 73941-28-3 78867-91-1 86217-47-2
94115-39-6, 3-Phenylpropoxyamine 97534-82-2 104504-43-0
129034-70-4 133562-41-1 137049-00-4, 1-Methyl-4-
imidazolesulfonyl chloride 137282-29-2 145080-95-1 151410-15-0
221078-11-1 292836-08-9 292836-09-0 292836-10-3 292836-12-5
292836-13-6 292836-14-7 292836-15-8 292836-16-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of substituted phenylalanine derivs. as protein tyrosine
phosphatase inhibitors)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:356570 HCAPLUS

DOCUMENT NUMBER: 137:233150

TITLE: The singlet-triplet energy gap in organic and
Pt-containing phenylene ethynylene polymers and
monomers

AUTHOR(S): Kohler, A.; Wilson, J. S.; Friend, R. H.;
Al-Suti, M. K.; Khan, M. S.; Gerhard, A.;
Bassler, H.

CORPORATE SOURCE: Cavendish Laboratory, University of Cambridge,
Cambridge, CB3 0HE, UK

SOURCE: Journal of Chemical Physics (2002),
116(21), 9457-9463

CODEN: JCPSA6; ISSN: 0021-9606

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have studied the evolution of the T1 triplet excited state in an
extensive series of phenylene ethynylene polymers and monomers with
platinum atoms in the polymer backbone and in an analogous series of
all-org. polymers with the platinum(II) tributylphosphonium complex
replaced by phenylene. The inclusion of platinum increases
spin-orbit coupling so T1 state emission (phosphorescence) is easier
to detect. For both, the platinum-contg. polymer series and for the

all-org. polymers, we find the T1 state to be at a const. sepn. of 0.7 ± 0.1 eV below the singlet S1 state. It is not possible to change this singlet-triplet splitting by altering the size or the charge-transfer character of the polymer repeat unit or by changing the electron delocalization along the polymer backbone. The S1-T1 gap can be increased by confining the S1 state in oligomers and monomers.

IT 316384-86-8 376590-46-4 448296-98-8

448901-76-6 448901-87-9

RL: PRP (Properties)

(the singlet-triplet energy gap in org. and Pt-contg. poly(phenyleneethynyls) and their low mol. wt. analogs)

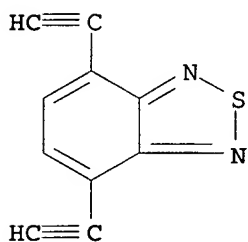
RN 316384-86-8 HCAPLUS

CN Platinum, dichlorobis(tributylphosphine)-, (SP-4-1)-, polymer with 4,7-diethynyl-2,1,3-benzothiadiazole (9CI) (CA INDEX NAME)

CM 1

CRN 316384-85-7

CMF C10 H4 N2 S

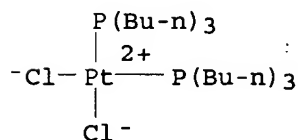


CM 2

CRN 15391-01-2

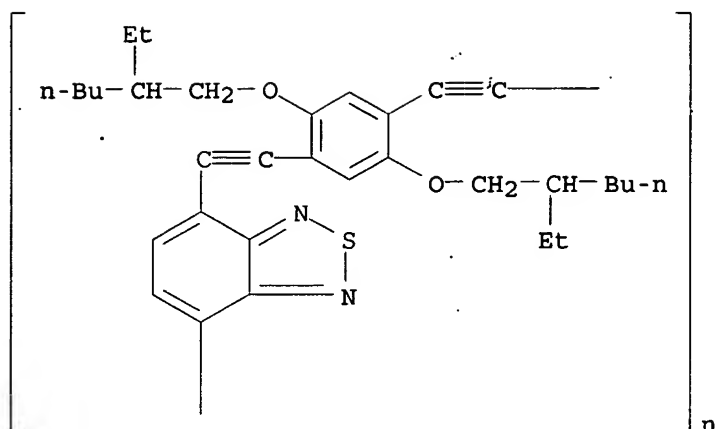
CMF C24 H54 Cl2 P2 Pt

CCI CCS

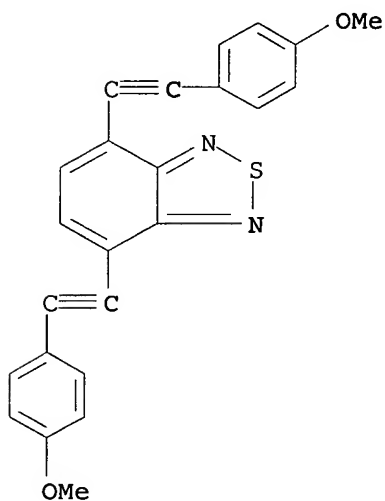


RN 376590-46-4 HCAPLUS

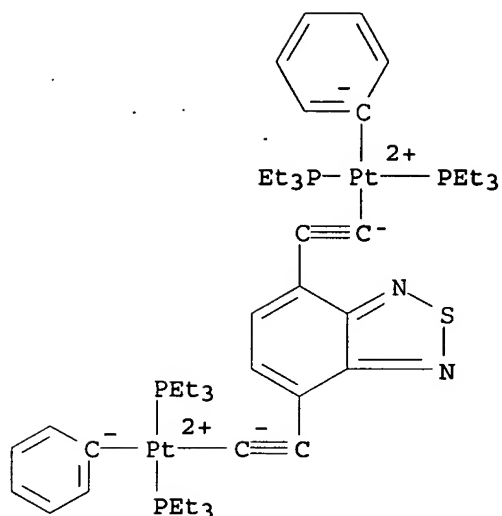
CN Poly[2,1,3-benzothiadiazole-4,7-diyl-1,2-ethynediyl[2,5-bis[(2-ethylhexyl)oxy]-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 448296-98-8 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[(4-methoxyphenyl)ethynyl]- (9CI)
 (CA INDEX NAME)



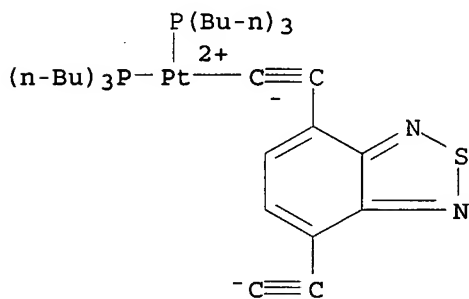
RN 448901-76-6 HCAPLUS
 CN Platinum, [μ-(2,1,3-benzothiadiazole-4,7-diyl)-2,1-ethynediyl]diphenyltetrakis(triethylphosphine)di-, stereoisomer
 (9CI) (CA INDEX NAME)



RN 448901-87-9 HCAPLUS
 CN Platinum, [4-(ethynyl-κC2)-7-ethynyl-2,1,3-benzothiadiazolato(2-)]bis(tributylphosphine)-, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 448901-86-8
 CMF C34 H56 N2 P2 Pt S
 CCI CCS



CC 36-5 (Physical Properties of Synthetic High Polymers)
 Section cross-reference(s): 73
 IT Polymers, properties
 RL: PRP (Properties)
 (conjugated; the singlet-triplet energy gap in org. and Pt-contg. poly(phenyleneethynylenes) and their low mol. wt. analogs)
 IT Polyacetylenes, properties
 RL: PRP (Properties)
 (polyarylene-; the singlet-triplet energy gap in org. and Pt-contg. poly(phenyleneethynylenes) and their low mol. wt. analogs)
 IT Band gap
 (singlet-triplet; the singlet-triplet energy gap in org. and

Pt-contg. poly(phenyleneethynylenes) and their low mol.
wt. analogs)

IT Excited triplet state

Fluorescence

Phosphorescence

Spin-orbit coupling

(the singlet-triplet energy gap in org. and Pt-contg.

poly(phenyleneethynylenes) and their low mol.

wt. analogs)

IT 57673-34-4 80034-27-1 98937-78-1 123849-60-5 131941-36-1
137000-76-1 191917-74-5 200703-03-3 200703-05-5 200703-06-6
201471-19-4 201533-07-5 210424-23-0 210424-40-1 219623-37-7
219716-29-7 222637-98-1 222637-99-2 222639-15-8 243142-57-6
263142-27-4 293757-13-8 316384-80-2 316384-82-4 316384-84-6
316384-86-8 376590-46-4 435276-59-8
448296-88-6 448296-89-7 448296-91-1 448296-92-2 448296-93-3
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448296-98-8 448296-99-9 448297-00-5 448297-02-7
448297-04-9 448297-05-0 448297-06-1 448297-07-2 448297-08-3
448297-09-4 448297-10-7 448297-11-8 448297-12-9 448901-69-7
448901-70-0 448901-71-1 448901-72-2 448901-73-3 448901-74-4
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448901-81-3 448901-83-5 448901-85-7 448901-87-9
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RL: PRP (Properties)

(the singlet-triplet energy gap in org. and Pt-contg.

poly(phenyleneethynylenes) and their low mol.

wt. analogs)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 19 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:276097 HCAPLUS

DOCUMENT NUMBER: 136:316701

TITLE: Light-emissive polymer blends and light-emissive
devices made from the same

INVENTOR(S): Cina, Salvatore

PATENT ASSIGNEE(S): Cambridge Display Technology Ltd., UK

SOURCE: PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002028983	A1	20020411	WO 2001-GB4381	200110 02

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
TD, TG

AU 2001092050 A5 20020415 AU 2001-92050

200110
02

EP 1326942 A1 20030716 EP 2001-972272

200110
02

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2004013904 A1 20040122 US 2003-398142

200307
03

PRIORITY APPLN. INFO.:

GB 2000-24155

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200010
03

US 2000-253249P

P

200011
27

GB 2001-18368

A

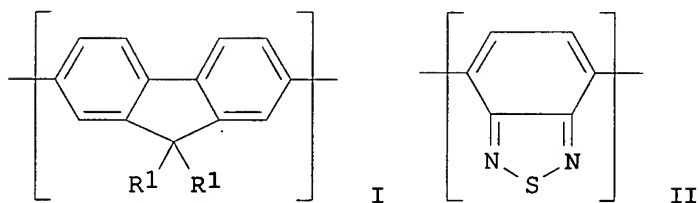
200107
27

WO 2001-GB4381

W

200110
02

GI



AB A polymer blend is described comprising a 1st light-emitting polymer comprising (un)substituted units according to I and II (R1 is independently in each occurrence H, C1-20 hydrocarbon carbonyloxy or C1-20 contg. one of S, N, O, P or Si atoms, C4-16 hydrocarbon chains, C4-16 aryl(trialkylsiloxy) or both R1 may form together with the 9-carbon on the fluorene ring a C5-20 cycloaliph. structure contg. 1 heteroatoms of S, N or O) and a 2nd hole transport polymer comprising (un)substituted fluorene units according to I and (un)substituted triarylamine units such as -[p-C6H4-N(p-C6H4-R2)(p-C6H4-)]-, -[p-C6H4-N(p-C6H4-CF3)(p-C6H4-)]-, -[p-C6H4-N(3,5-(CF3)2C6H3)(p-C6H4-)]-, or [C6H4-N(3-(CF3)C6H4)(p-C6H4-)]-, wherein

the mol. wts. of the 1st and 2nd polymers and the blending ratio of the 1st and 2nd polymers are selected so that, in use in a light-emitting device, the luminance of the emitted light at a bias of 5V is $\geq 20,000$ cd/m². A light-emitting device (e.g., passive matrix display) is also described comprising a layer of a light-emitting material interposed between first and second electrodes such that charge carriers can move between the first and second electrodes and the light-emitting material, wherein the light-emitting material comprises a polymer blend described.

IT 210347-52-7

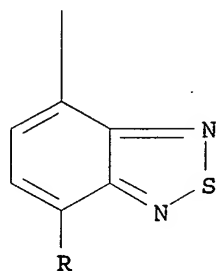
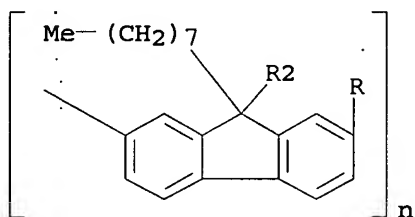
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(light-emitting polymer blends and light-emitting devices made from same)

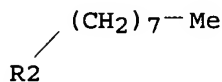
RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C09K011-06

ICS H05B033-14; H01L051-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

IT 210347-52-7 220797-16-0

RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(light-emitting polymer blends and light-emitting devices made from same)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L65 ANSWER 20 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:275953 HCAPLUS

DOCUMENT NUMBER: 136:309851

TITLE: Preparation of diphenylamines and N-nitrosodiphenylamines for treatment of oxidative stress and unavailability of endothelial nitric oxide.

INVENTOR(S): Lardy, Claude; Nioche, Jean-Yves; Caputo, Lidia; Decerprit, Jacques; Ortholand, Jean-Yves; Festal, Didier; Guerrier, Daniel

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 142 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002028820	A1	20020411	WO 2001-EP10761	20010918
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PRIORITY APPLN. INFO.:

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WO 2001-EP10761

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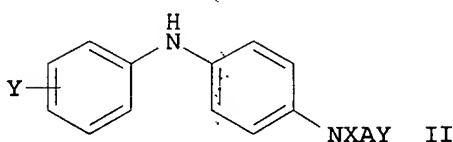
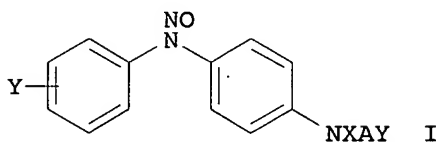
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OTHER SOURCE(S):

MARPAT 136:309851

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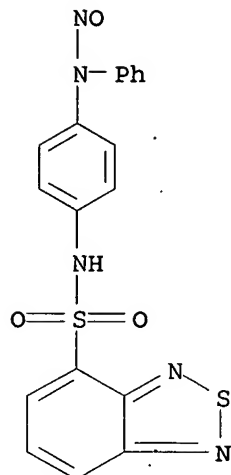
AB Title compds. [I; X, Ra = H, (unsatd.) alipharyl, AY; A = CO, SO₂, CONRa, CONRaSO₂; T = H, halo, NO₂, cyano, (unsatd.) (halogenated) alipharyl optionally interrupted by O and/or S; Y = org. substituent; with provisos], and des-nitroso compds. (II; variables as above), were prepd. Thus, a mixt. of nicotinoyl chloride hydrochloride, 4-amino-4'-methoxy-N-tert-butoxycarbonyldiphenylamine, and Et₃N was stirred in CH₂Cl₂ to give 100% 4-nicotinoylamino deriv. which was N-deprotected with CF₃CO₂H to give 95.2% 4-methoxy-4'-nicotinoylamino diphenylamine. The latter in HOAc was treated dropwise with aq. NaNO₂ to give 88% N-nitroso-4-methoxy-4'-nicotinoylamino diphenylamine. Tested II inhibited oxidn. of human low mol. wt. lipoproteins by Cu²⁺ with IC₅₀ = 1.7-13.4 μM.

IT 409351-43-5P 409352-73-4P

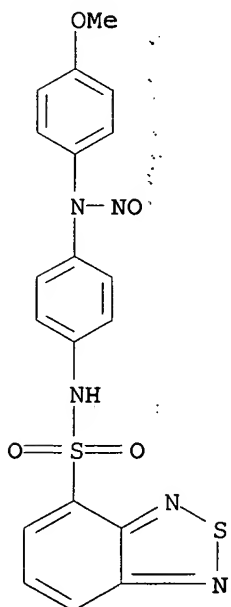
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of diphenylamines and N-nitrosodiphenylamines for treatment of oxidative stress and unavailability of endothelial nitric oxide)

RN 409351-43-5 HCAPLUS
 CN 2,1,3-Benzothiadiazole-4-sulfonamide, N-[4-(nitrosophenylamino)phenyl]- (9CI) (CA INDEX NAME)



RN 409352-73-4 HCAPLUS
 CN 2,1,3-Benzothiadiazole-4-sulfonamide, N-[4-[(4-methoxyphenyl)nitrosoamino]phenyl]- (9CI) (CA INDEX NAME)



IC ICM C07C233-80
 ICS C07C235-38; C07C235-64; C07C243-06; C07C255-57; C07C271-28;
 C07C275-40; C07C311-21; C07C311-29; C07C311-48; C07C311-60;
 C07D213-71; C07D213-82; C07D239-28; C07D307-68; C07D333-62;
 A61K031-165; A61K031-17; A61K031-18; A61K031-64
 CC 27-16 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 1, 25, 28

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

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RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU

(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of diphenylamines and N-nitrosodiphenylamines for treatment of oxidative stress and unavailability of endothelial nitric oxide)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L65 ANSWER 21 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:652539 HCAPLUS

DOCUMENT NUMBER: 136:20637

TITLE: Magneto optic properties of polymeric hydrogen-bonded liquid-crystal mixtures

AUTHOR(S): Filippov, A. P.

CORPORATE SOURCE: Institute of High-Molecular-Weight Compounds, Russian Academy of Sciences, St. Petersburg, Russia

SOURCE: Journal of Optical Technology (Translation of Opticheskii Zhurnal) (2001), 68(9), 700-703

CODEN: JOTEE4; ISSN: 1070-9762

PUBLISHER: Optical Society of America

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The method of threshold Freedericksz transitions is used to study the optical and elastic properties of liq.-crystal (LC) mixts. of comblike copolymers with low-mol.-wt. additives, formed by hydrogen bonds between the mols. of the components. Model low-mol.-wt. hydrogen-bonded LC systems were also studied. It is shown that the degree of orientational order of the mixts. and the rotational viscosity decreases as the fraction of nonmesogenic component increases, while the elasticity anisotropy increases. A comparison of the data for polymeric and low-mol.-wt. mixts. indicates that it is promising to put hydrogen-bonded LC polymeric films into use.

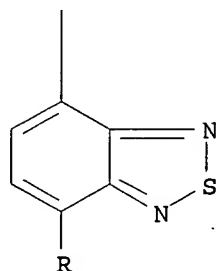
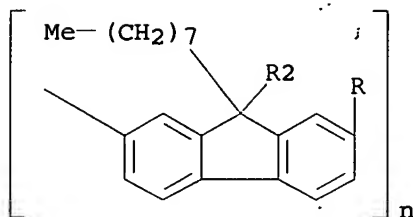
IT 210347-52-7D, complexes with 4-pyridinyl 4-methoxybenzoate
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)

(magneto optic properties of polymeric hydrogen-bonded liq.-crystal mixts.)

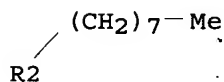
RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 75

IT 210347-52-7D, complexes with 4-pyridinyl 4-methoxybenzoate

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(magneto optic properties of polymeric hydrogen-bonded
liq.-crystal mixts.)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 22 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:161507 HCAPLUS

DOCUMENT NUMBER: 134:207720

TITLE: N-Hydroxy-2-(alkyl, aryl, or heteroaryl
sulfanyl, sulfinyl, or sulfonyl)-3-substituted
alkyl, aryl, or heteroaryl amides as matrix
metalloproteinase inhibitors

INVENTOR(S): Venkatesan, Arunapalam Mudumbai; Grosu, George
Theodore; Davis, Jamie Marie; Baker, Jannie Lea;
Levin, Jeremy Ian

PATENT ASSIGNEE(S): American Cyanamid Company, USA

SOURCE: U.S., 72 pp., Cont.-in-part of U.S. Ser. No.
26,372, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

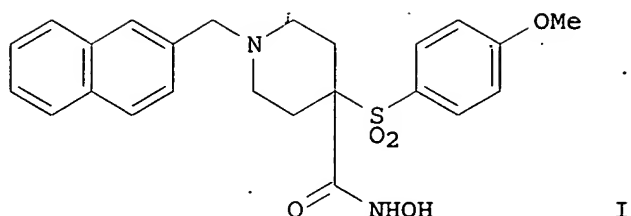
LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6197791	B1	20010306	US 1998-140504	19980826
US 6331563	B1	20011218	US 2000-587560	20000605
US 6288086	B1	20010911	US 2000-593918	20000614
US 2002032186	A1	20020314	US 2001-898604	20010703
US 6441023	B2	20020827		
US 2002006922	A1	20020117	US 2001-899641	20010705
US 6462073	B2	20021008		
US 2002188120	A1	20021212	US 2002-185080	20020628
PRIORITY APPLN. INFO.:			US 1997-38899P	P 19970227
			US 1998-26372	B2 19980219
			US 1998-140504	A3 19980826
			US 2000-587457	A1 20000605
			US 2000-587560	XX 20000605
			US 2000-593918	A3 20000614

OTHER SOURCE(S): MARPAT 134:207720
 GI

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006



AB The invention provides low-mol.-wt., non-peptide inhibitors of matrix metalloproteinases (MMPs) and TNF- α converting enzyme (TACE), useful for the treatment of a wide variety of related conditions, including arthritis, tumor metastasis, tissue ulceration, abnormal wound healing, periodontal disease, bone disease, diabetes (insulin resistance), and HIV infection. The compds. have formula R1AC(R2R3)CON(OH)R4 [wherein R1 = (un)substituted alk(en/yn)yl, aryl, cycloalkyl, heterocyclyl, heteroaryl; or heteroarylalkyl; A = S, SO, or SO₂; R2 and R3 form a 6-membered heterocyclic ring contg. substituted N; R4 = H, (un)substituted alk(en/yn)yl, Ph, naphthyl, (bi)cycloalkyl, or heterocyclyl; or salts]. For example, (2-naphthylmethyl)bis(2-chloroethyl)amine (prepd. in 2 steps) was cyclized with 4-MeOC₆H₄SO₂CH₂CO₂Et to give a piperidine deriv. (52%), followed by sapon. of the ester to the acid (36%) and amidation with NH₂OH.HCl (31%), to give title compd. I. This compd. gave the following inhibitions (IC₅₀, nM): MMP-1 368, MMP-9 5.0, MMP-13 1.6, and TACE 170.7 (in vitro).

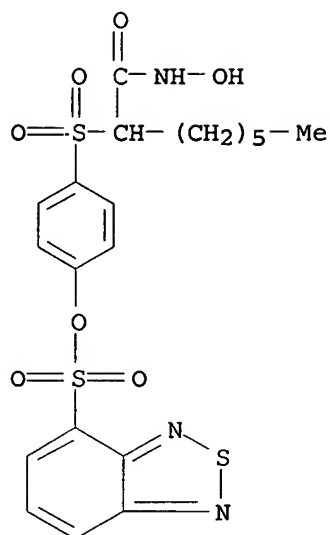
IT 212768-45-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted N-hydroxyamides as matrix metalloproteinase inhibitors)

RN 212768-45-1 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-sulfonic acid, 4-[[1-[(hydroxyamino)carbonyl]heptyl]sulfonyl]phenyl ester (9CI) (CA INDEX NAME)



IC ICM A61K031-445

ICS C07D211-54

INCL 514327000

CC 27-16 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1, 7, 25, 28

IT	212765-92-9P	212765-94-1P	212765-96-3P	212765-98-5P
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212768-46-2P

RL: BAC (Biological activity or effector, except adverse); BSU
(Biological study, unclassified); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted
N-hydroxyamides as matrix metalloproteinase inhibitors)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 23 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:27435 HCAPLUS

DOCUMENT NUMBER: 134:100760

TITLE: N-Hydroxy-2-(alkyl, aryl or heteroaryl sulfanyl,
sulfinyl or sulfonyl)-3-substituted alkyl, aryl
or heteroaryl amides as matrix metalloproteinase
inhibitors

INVENTOR(S): Venkatesan, Aranapakam Mudumbai; Grosu, George
Theodore; Davis, Jamie Marie; Hu, Baihua; Cole,
Derek Cecil; Baker, Jannie Lea; Jacobson, Marcy
Pamela; O'dell, Matthew Robin

PATENT ASSIGNEE(S): American Cyanamid Company, USA

SOURCE: U.S., 58 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

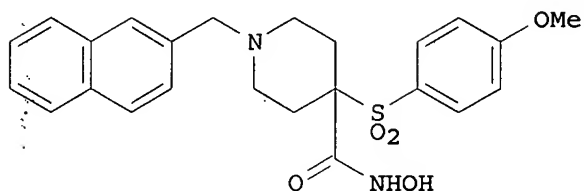
FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6172057	B1	20010109	US 1998-26371	199802

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US 6342508	B1	20020129	US 2000-640532	
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PRIORITY APPLN. INFO.:			US 1997-38899P	P
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OTHER SOURCE(S): MARPAT 134:100760
GI



AB The invention provides low-mol.-wt., non-peptide inhibitors of matrix metalloproteinases (MMPs) and TNF- α converting enzyme (TACE), useful for the treatment of a wide variety of related conditions, including arthritis, tumor metastasis, tissue ulceration, abnormal wound healing, periodontal disease, bone disease, diabetes (insulin resistance), and HIV infection. The compds. have formula R1AC(R2R3)CON(OH)R4 [wherein R1 = (un)substituted alk(en/yn)yl, aryl, cycloalkyl, heterocyclyl, heteroaryl, or heteroarylalkyl; A = S, SO, or SO₂; R2 and R3 = (un)substituted alkyl, alk(en/yn)yl, arylalkyl, biphenylalkyl, (bi)cycloalkylalkyl, or form 5- to 7-membered heterocyclic ring contg. O, S, or (un)substituted NH; R4 = H, (un)substituted alk(en/yn)yl, Ph, naphthyl, (bi)cycloalkyl, or heterocyclyl; or salts]. For example, (2-naphthylmethyl)bis(2-chloroethyl)amine (prepd. in 2 steps) was cyclized with 4-MeOC₆H₄SO₂CH₂CO₂Et to give a piperidine deriv. (52%), followed by sapon. of the ester to the acid (36%) and amidation with NH₂OH.HCl (31%), to give title compd. I. This compd. gave the following inhibitions (IC₅₀, nM): MMP-1 368, MMP-9 5.0, MMP-13 1.6, and TACE 170.7 (in vitro).

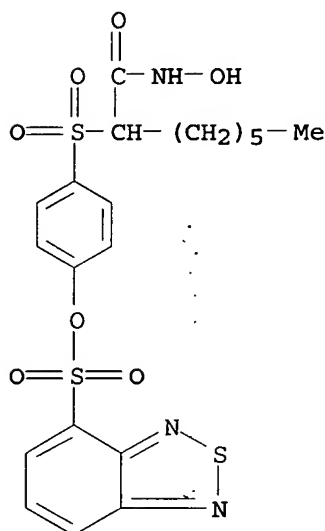
IT 212768-45-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted N-hydroxyamides as matrix metalloproteinase inhibitors)

RN 212768-45-1 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-sulfonic acid, 4-[[1-[(hydroxyamino)carbonyl]heptyl]sulfonyl]phenyl ester (9CI) (CA INDEX NAME)



IC ICM A01N043-46

INCL 514212010

CC 27-16 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1, 7, 25, 28

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212768-42-8P	212768-43-9P	212768-44-0P	212768-45-1P
212768-46-2P			

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted N-hydroxyamides as matrix metalloproteinase inhibitors)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L65 ANSWER 24 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:689623 HCAPLUS

DOCUMENT NUMBER: 134:48709

TITLE: Materials and devices for polarized electroluminescence

AUTHOR(S): Grell, Martin; Bradley, Donal D. C.; Whitehead, Katharine S.

CORPORATE SOURCE: Dept. of Physics and Astronomy, University of Sheffield, Sheffield, S3 7RH, UK

SOURCE: Journal of the Korean Physical Society (2000), 36(6), 331-336

CODEN: JKPSDV; ISSN: 0374-4884

PUBLISHER: Korean Physical Society

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English

AB The engineering of new electronic and photonic devices requires materials with unique properties. To find these, scientists increasingly harness the versatility of org. chem. Three key advantages of org. semiconductors over their inorg. counterparts are a direct result of the chem. diversity of the mol. world: Processability from soln., chem. bandgap tuning, and the ability to self-organize. The 1st 2 advantages are now widely exploited, but the 3rd has yet to receive more attention. One area where the use of self-organizing materials for org. optoelectronics is comparatively advanced is the field of polarized electroluminescence (EL). A polarized light source would lend itself well to use as a backlight for liq. crystal (LC) displays. In this contribution, the authors report on the development of polarized light sources based on conjugated LC polymers. This approach is now fairly advanced, and polarization ratios >20 were demonstrated. As an alternative approach, the authors have recently started to extend the versatile reactive mesogen concept to org. semiconductors. The authors report on 1st results on this new class of materials. A significant amt. of review material is included.

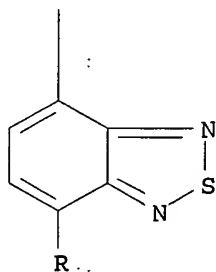
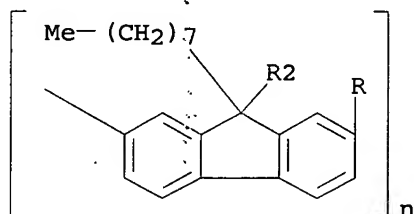
IT 210347-52-7

RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (materials and devices for polarized electroluminescence)

RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiaazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

(CH₂)₇-Me

R2

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36, 75

ST review electroluminescence polarized material device; mesogen liq crystal visible spectra polarization thermooptical effect; smectic A mesogen liq crystal visible spectra thermooptical effect; nematic mesogen liq crystal visible spectra polarization thermooptical effect; ordering liq crystal electroluminescence polarization; crystallinity liq crystal electroluminescence polarization; mass liq crystal mol electroluminescence polarization; fluorene polymer electroluminescence polarization; light source polarized liq crystal electroluminescence; LED polarized liq crystal; semiconductor polymer liq crystal electroluminescence polarized

IT Mass
(molar; materials and devices for polarized electroluminescence)

IT 95270-88-5, Polyfluorene 123864-00-6, Poly(9,9-dioctyl)fluorene 188201-14-1 210347-52-7 210347-56-1
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(materials and devices for polarized electroluminescence)

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L65 ANSWER 25 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:646059 HCAPLUS

DOCUMENT NUMBER: 133:238529

TITLE: Manufacture of conjugated polymers using boron derivatives

INVENTOR(S): Towns, Carl Robert; O'Dell, Richard

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK

SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000053656	A1	20000914	WO 2000-GB771	20000303

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
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CA 2362459 C 20060509
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JP 3310658 B1 20020805 JP 2000-604091

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JP 2002539287 T2 20021119
US 2002095017 A1 20020718 US 2002-90474

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US 2003040595 A2 20030227
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PRIORITY APPLN. INFO.:

GB 1999-5203 A

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GB 1999-25653 A

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US 2000-518991 A1

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WO 2000-GB771 W

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OTHER SOURCE(S): MARPAT 133:238529

AB A process for prepg. a conjugated polymer comprises polymg. in a reaction mixt. consisting of (a) an arom. monomer having at least two reactive boron deriv. groups selected from a boronic acid group, a boronic ester group, and a borane group and an arom. monomer having at least two reactive halide functional groups or (b) an arom. monomer having one reactive halide functional group and one reactive boron deriv. group in the presence of a catalytic amt. of a palladium catalyst and an org. base in an amt. sufficient to convert

the reactive boron deriv. groups into B(OH)₃- anions. Thus 9,9-dioctylfluorene-2,7-di(ethyleneboronate) (9 mmol) and 2,7-dibromo-9,9-dioctylfluorene (9 mmol) were polymd. in the presence of tetrakis(triphenylphosphine)palladium catalyst and tetraethylammonium hydroxide to give a polymer with a peak mol wt. of 204,000.

IT 210347-51-6P 210347-52-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of conjugated polymers using boron derivs.)

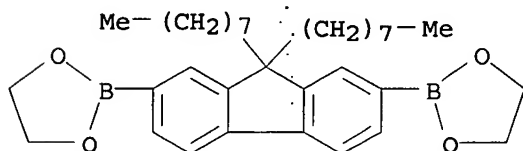
RN 210347-51-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 210347-49-2

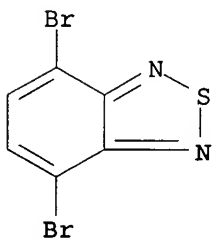
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CM 2

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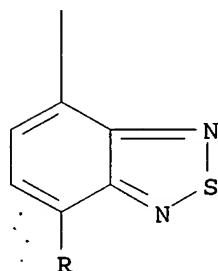
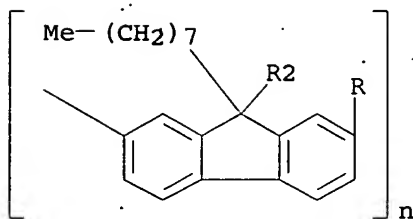
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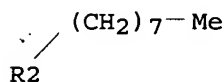
RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C08G061-02
 CC 35-7 (Chemistry of Synthetic High Polymers)
 IT 195456-48-5P, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) 210347-50-5P
 210347-51-6P 210347-52-7P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (manuf. of conjugated polymers using boron derivs.)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L65 ANSWER 26 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1998:608598 HCAPLUS
 DOCUMENT NUMBER: 129:230641
 TITLE: N-Hydroxy-2-(alkyl, aryl or heteroaryl sulfanyl,
 sulfinyl or sulfonyl)-3-substituted alkyl, aryl
 or heteroaryl amides as matrix metalloproteinase
 inhibitors
 INVENTOR(S): Venkatesan, Mudumbai Aranapakam; Grosu, George
 Theodore; Davis, Jamie Marie; Hu, Baihua;
 O'Dell, Mathew James; Cole, Derek Cecil; Baker,
 Jannie Lea; Jacobson, Marcy Pamela
 PATENT ASSIGNEE(S): American Cyanamid Co., USA
 SOURCE: PCT Int. Appl., 181 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent

MEI HUANG EIC1700 REM4B28 571-272-3952

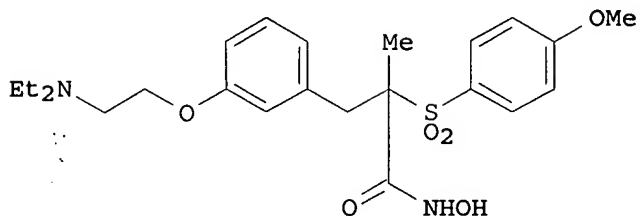
08/14/2006

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9838163	A1	19980903	WO 1998-US3291	19980217
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AU 9864368	A1	19980918	AU 1998-64368	19980217
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NZ 337298	A	20021126	NZ 1998-337298	19980217
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PT 970046	T	20040430	PT 1998-910022	19980217

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PT 973512	T	20040730	PT 1998-906468	199802 17
ES 2217540	T3	20041101	ES 1998-906468	199802 17
ZA 9801625	A	19990826	ZA 1998-1625	199802 26
ZA 9801628	A	20000228	ZA 1998-1628	199802 26
TW 568900	B	20040101	TW 1998-87102853	199803 17
MX 9907862	A	20000630	MX 1999-7862	199908 25
NO 9904124	A	19991026	NO 1999-4124	199908 26
NO 314258	B1	20030224		
PRIORITY APPLN. INFO.:			US 1997-806728	A 199702 27
			WO 1998-US3291	W 199802 17

OTHER SOURCE(S): MARPAT 129:230641
GI



AB The invention provides low-mol.-wt., non-peptide inhibitors of matrix metalloproteinases (MMPs) and TNF- α converting enzyme (TACE), useful for the treatment of a wide variety

of related conditions, including arthritis, tumor metastasis, tissue ulceration, abnormal wound healing, periodontal disease, bone disease, diabetes (insulin resistance), and HIV infection. The compds. have formula $R_1AC(R_2R_3)CON(OH)R_4$ [wherein $R_1 =$ (un)substituted alk(en/yn)yl, aryl, cycloalkyl, heterocyclyl, heteroaryl, or heteroarylalkyl; $A = S, SO, \text{ or } SO_2$; $R_2, R_3 = H,$ (un)substituted alk(en/yn)yl, aralkyl, biphenylalkyl, arylalkenyl, (bi)cycloalkylalkyl, heterocyclyl, alkoxyaralkyl, heteroaryl, heteroaralkyl, etc.; $R_4 = H,$ (un)substituted alk(en/yn)yl, Ph, naphthyl, (bi)cycloalkyl, or heterocyclyl; or salts]. For instance, α -alkylation of 4-MeOC₆H₄SO₂CH(Me)CO₂Et by 3-(Et₂NCH₂CH₂O)C₆H₄CH₂Cl (93%), followed by sapon. of the ester to the acid (88%) and amidation with NH₂OH.HCl (21%), gave compd. I as the HCl salt. This compd. gave the following inhibitions (IC₅₀, nM): MMP-1 297, MMP-9 4.3, and MMP-13 3.6, and 41% inhibition of TACE at 1 μ M.

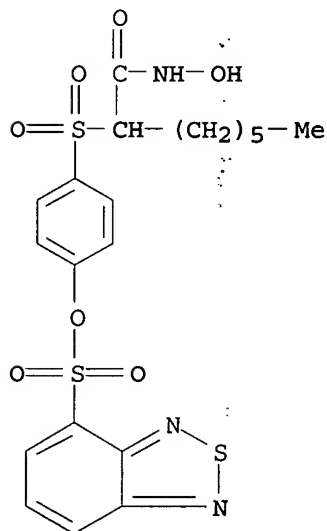
IT 212768-45-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted N-hydroxyamides as matrix metalloproteinase inhibitors)

RN 212768-45-1 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-sulfonic acid, 4-[[1-[(hydroxyamino)carbonyl]heptyl]sulfonyl]phenyl ester (9CI) (CA INDEX NAME)



IC ICM C07C323-60

ICS C07C317-40; C07D295-08; A61K031-16

CC 27-16 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1, 7, 25, 28

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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted N-hydroxyamides as matrix metalloproteinase inhibitors)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE

FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L65 ANSWER 27 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:603237 HCAPLUS
DOCUMENT NUMBER: 129:230639
TITLE: N-Hydroxy-2-(alkyl, aryl or heteroaryl sulfanyl,
sulfinyl or sulfonyl)-3-substituted alkyl, aryl
or heteroaryl amides as matrix metalloproteinase
inhibitors
INVENTOR(S): Venkatesan, Aranapakam Mudumbai; Grosu, George
Theodore; Davis, Jamie Marie; Baker, Jannie Lea
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: PCT Int. Appl., 176 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9837877	A1	19980903	WO 1998-US2987	19980217

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KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES,
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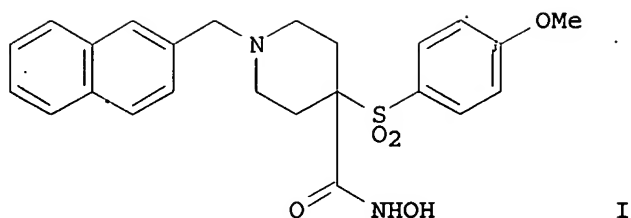
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OTHER SOURCE(S):	MARPAT	129:230639			
GI					
MEI HUANG	EIC1700	REM4B28	571-272-3952		



AB The invention provides low-mol.-wt., non-peptide inhibitors of matrix metalloproteinases (MMPs) and TNF- α converting enzyme (TACE), useful for the treatment of a wide variety of related conditions, including arthritis, tumor metastasis, tissue ulceration, abnormal wound healing, periodontal disease, bone disease, diabetes (insulin resistance), and HIV infection. The compds. have formula $R_1AC(R_2R_3)CON(OH)R_4$ [wherein R_1 = (un)substituted alk(en/yn)yl, aryl, cycloalkyl, heterocyclyl, heteroaryl, or heteroarylalkyl; A = S, SO, or SO₂; R_2 and R_3 form 5- to 7-membered heterocyclic ring contg. O, S, or (un)substituted NH; R_4 = H, (un)substituted alk(en/yn)yl, Ph, naphthyl, (bi)cycloalkyl, or heterocyclyl; or salts]. For example, (2-naphthylmethyl)bis(2-chloroethyl)amine (prepd. in 2 steps) was cyclized with 4-MeOC₆H₄SO₂CH₂CO₂Et to give a piperidine deriv. (52%), followed by sapon. of the ester to the acid (36%) and amidation with NH₂OH.HCl (31%), to give title compd. I. This compd. gave the following inhibitions (IC₅₀, nM): MMP-1 368, MMP-9 5.0, MMP-13 1.6, and TACE 170.7 (in vitro).

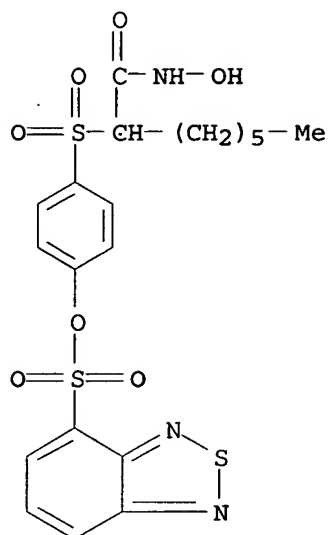
IT 212768-45-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted N-hydroxyamides as matrix metalloproteinase inhibitors)

RN 212768-45-1 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-sulfonic acid, 4-[[1-[(hydroxyamino)carbonyl]heptyl]sulfonyl]phenyl ester (9CI) (CA INDEX NAME)



IC ICM A61K031-16

ICS C07D211-66

CC 27-16 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1, 7, 25, 28

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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of org. sulfanyl/sulfinyl/sulfonyl-substituted
N-hydroxyamides as matrix metalloproteinase inhibitors)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L65 ANSWER 28 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:201718 HCAPLUS

DOCUMENT NUMBER: 126:324241

TITLE: Static electrification-chemical methods to
suppress the charging behavior in transformer
oils

AUTHOR(S): Murthy, T. S. R.; Agashe, P. G.; Kamath, K. M.

CORPORATE SOURCE: Bharat Heavy Electricals Limited, Corporate
Research & Development, India

SOURCE: IEE Conference Publication (1996),
430(Dielectric Materials, Measurements and
Applications), 374-377

CODEN: IECPB4; ISSN: 0537-9989

PUBLISHER: Institution of Electrical Engineers

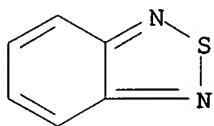
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The phenomenon of electrostatic charge generation due to friction
between the flowing insulating liq. and the fixed solid insulation
is well known. The increase in power and voltage ratings of
transformers has made the static charge phenomenon an important
parameter to be controlled to prevent transformer failures due to
charge accumulations. To migrate this problem of charge
accumulations and to suppress the developed charge d. in transformer
oils, different methods, like, mixing low charging oils with high
charging oils, use of additives like benzotriazole(BTA) have been

suggested in the literature. In this paper, the authors studied the origin and manifestation of static electrification phenomenon of Indian Paraffinic coils by measuring the charge d. of transformer oil base stock (TOBS) and oil samples drawn before clay treatment and oils as received in drums. The authors studied different chem. methods to suppress the charge d. of oils by using different additives, like, triazoles, tetrazoles, imidazoles and high mol. wt. alcs. The authors also studied the charge suppression by blending oils with linear alkyl benzene (LAB) and processing with different adsorbents like mol. sieves, alumina, and Fuller's earth.

IT 273-13-2, 2,1,3-Benzothiadiazole
 RL: MOA (Modifier or additive use); USES (Uses)
 (electrification suppressant; static electrification-chem.
 methods to suppress charging behavior in transformer oils)
 RN 273-13-2 HCAPLUS
 CN 2,1,3-Benzothiadiazole (7CI, 8CI, 9CI) (CA INDEX NAME)



CC 76-13 (Electric Phenomena)
 IT 100-97-0, Hexamethylenetetramine, uses 136-85-6,
 5-Methylbenzotriazole 273-13-2, 2,1,3-Benzothiadiazole
 583-39-1, 2-Mercaptobenzimidazole 670-96-2, 2-Phenylimidazole
 822-36-6, 4-Methylimidazole 931-36-2, 2-Ethyl-4-methylimidazole
 1072-62-4, 2-Ethylimidazole 1344-28-1, Alumina, uses 1739-84-0,
 1,2-Dimethylimidazole 9002-93-1 9016-45-9, Igepal CO-530
 23996-25-0 25108-32-1, 4-Chloro-1-phenyl-1H-tetrazole
 28258-64-2, N-Phenyl-naphthylamine
 RL: MOA (Modifier or additive use); USES (Uses)
 (electrification suppressant; static electrification-chem.
 methods to suppress charging behavior in transformer oils)

L65 ANSWER 29 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1993:449390 HCAPLUS
 DOCUMENT NUMBER: 119:49390
 TITLE: Cyclic tetraabenzimidazole
 INVENTOR(S): Obermayer, Arthur S.; Hendrickson, James B.;
 Hussoin, Sajjat
 PATENT ASSIGNEE(S): Moleculon Research Co., USA
 SOURCE: U.S., 6 pp. Cont. of U.S. Ser. No. 725,88,
 abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5180821	A	19930119	US 1992-847835	199203 09

PRIORITY APPLN. INFO.:

US 1990-464998

B1

199001

16

US 1991-725883

B1

199106

28

OTHER SOURCE(S):
GI

CASREACT 119:49390

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

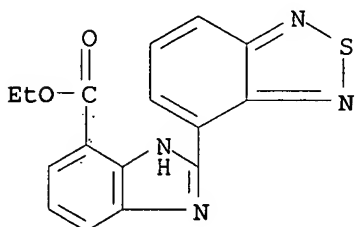
AB The title compd. I is yellowish, visually nonfluorescent, of mol. wt. approx. 464, m.p. > 350°, with slight soly. in 1:1 EtOH:CHCl₃, and possesses characteristic IR absorption bands (cm⁻¹, in KBr) at 1620, 1550, 1450, 1400, and 1260. I is useful as a chelating agent (Cu complex prepd.), a catalyst, and an electrooptic component (no data). I is prepd. from 2,3-diaminobenzoic acid (II) via linear dimers which are coupled to linear tetramer, with a final cyclization step. Thus, 45 g II in 500 mL CHCl₃ was treated with 150 mL SOCl₂ in the presence of 15 mL Et₃N to afford thiadiazole acid chloride III (R = Cl, 75% yield), which was hydrolyzed to the acid III (R = OH, 78% yield) with 10% KOH. III (R = OH, 18 g) and II Et ester (18 g) were coupled to form benzimidazole ester dimer IV (R = Et, 85%) by cyclodehydration in the presence of N-diphenylphosphinyl-N'-methylpiperazine (120 g in 500 mL CH₂Cl₂) and triflic anhydride (33.64 mL in 200 mL CH₂Cl₂). IV (R₁ = H, 2.96 g) and diamino ester dimer V (2.96 g) [prepd. by deprotection of IV (R = Et) with SnCl₂/EtOH/HCl] were similarly coupled by cyclodehydration to afford 60% protected tetramer ester VI. In the final step, heating 264 mg tetramer diamino ester VII neat [prepd. by deprotection of VI, as before] at 300° afforded 7% I.

IT 109744-87-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coupling of acid and diamino ester forms of, into linear tetramer)

RN 109744-87-8 HCAPLUS

CN 1H-Benzimidazole-4-carboxylic acid, 2-(2,1,3-benzothiadiazol-4-yl)-, ethyl ester (9CI) (CA INDEX NAME)

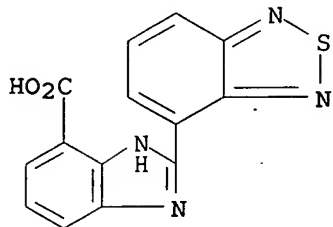


IT 148563-34-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(prepn. and coupling of, with diamino ester into linear tetramer)

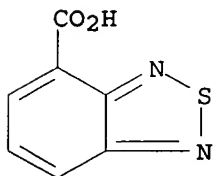
RN 148563-34-2 HCAPLUS

CN 1H-Benzimidazole-4-carboxylic acid, 2-(2,1,3-benzothiadiazol-4-yl)-
(9CI) (CA INDEX NAME)

IT 3529-57-5P, 2,1,3-Benzothiadiazole-4-carboxylic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)(prepn. and cyclodehydration reaction of, with Et
diaminobenzoate)

RN 3529-57-5 HCAPLUS

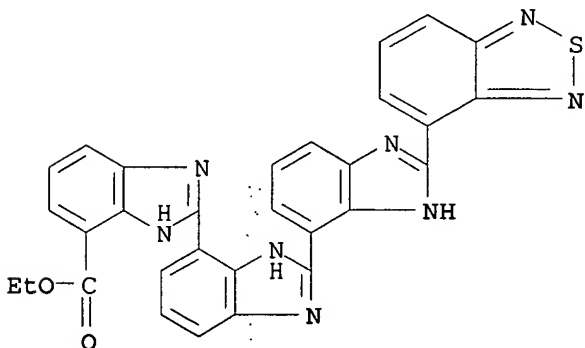
CN 2,1,3-Benzothiadiazole-4-carboxylic acid (7CI, 8CI, 9CI) (CA INDEX
NAME)

IT 148563-36-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(prepn. and deprotection of)

RN 148563-36-4 HCAPLUS

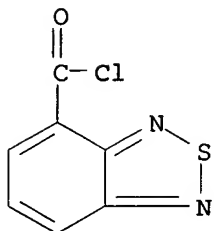
CN [2,4':2',4''-Ter-1H-benzimidazole]-4-carboxylic acid,
2''-(2,1,3-benzothiadiazol-4-yl)-, ethyl ester (9CI) (CA INDEX
NAME)

IT 148563-33-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and hydrolysis of)

RN 148563-33-1 HCAPLUS

CN 2,1,3-Benzothiadiazole-4-carbonyl chloride (9CI) (CA INDEX NAME)



IC ICM C07D233-54

INCL 540465000

CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 22, 26, 78

IT 109744-87-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and coupling of acid and diamino ester forms of, into
 linear tetramer)

IT 148563-34-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and coupling of, with diamino ester into linear tetramer)

IT 3529-57-5P, 2,1,3-Benzothiadiazole-4-carboxylic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and cyclodehydration reaction of, with Et
 diaminobenzoate)

IT 148563-36-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and deprotection of)

IT 148563-33-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and hydrolysis of)

L65 ANSWER 30 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1992:613131 HCAPLUS

DOCUMENT NUMBER: 117:213131

TITLE: Synthesis of novel thermotropic liquid
 crystalline poly(2,3-quinoxalines)

AUTHOR(S): Ito, Yoshihiko; Ihara, Eiji; Uesaka, Tetsuya;
 Murakami, Masahiro

CORPORATE SOURCE: Fac. Eng., Kyoto Univ., Kyoto, 606, Japan

SOURCE: Macromolecules (1992), 25(24), 6711-13
 CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The living cyclopolymn. of 4,5-bis(alkoxymethyl)-3,6-dimethyl-1,2-
 diisocyanobenzene (alkoxy = propoxy, pentyloxy, and heptyloxy) was
 catalyzed by a MePd(II) complex to give polymers contg. adjacent
 2,3-fused quinoxaline rings. Polymers with various d.p. and narrow
 mol. wt. distribution were prep'd. and their

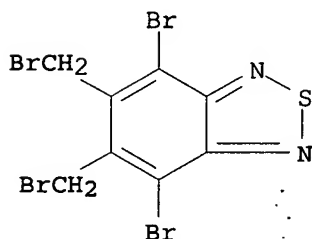
thermal phase behavior was analyzed by optical polarized microscopy. The phase behavior depended on the d.p. as well as the alkoxy length of the monomer. Of note was that the polymers with longer alkoxy chains had thermotropic liq. crystallinity at higher d.p. The relation could indicate that the rigid segment of the polymer propagated with the progress of the living polymn.

IT 144042-97-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(alkoxylation of)

RN 144042-97-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo-5,6-bis(bromomethyl)- (9CI) (CA
INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 75

IT 144042-97-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(alkoxylation of)

L65 ANSWER 31 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:1748 HCAPLUS

DOCUMENT NUMBER: 100:1748

TITLE: Aquatic toxicology of nitrogen heterocyclic
molecules: quantitative structure-activity
relationships

AUTHOR(S): Schultz, T. Wayne

CORPORATE SOURCE: Coll. Vet. Med., Univ. Tennessee, Knoxville, TN,
USA

SOURCE: Advances in Environmental Science and Technology
(1983), 13, 401-24

CODEN: AESTC9; ISSN: 0065-2563

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Correlations between 5 general mol. descriptors of 26 selected single- and multi-N-contg. heterocyclic mols. and acute cellular response monitored as population growth of the ciliate Tetrahymena pyriformis were reported. Six O- and S-contg. heterocycles were also examd. For quant. structure-activity correlations the log of the inverse of the 60-h inhibitor growth concn. for 50% of control populations (IGC50 values) were used as the log BR (biol. response), and regression anal. was used to examine the correlation between the mol. descriptors: log 1-octanol/water partition coeff., mol wt., b.p., no. of C atoms/mol., log BR, etc. Quant. structure-activity relationships between biol. response and several co-linear mol. descriptors for 26 N heterocyclic mols showed that activity is linearly related to hydrophobicity, with log 1-octanol/water partition coeff. and the 1Xv mol. connectivity index being the best descriptors. Biol. activity increased with ring

addn. and decreased with in-ring N addn. The crowding of N within a mol. increased activity.

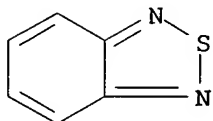
IT 273-13-2

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(toxicity of, to Tetrahymena pyriformis, structure in relation to)

RN 273-13-2 HCAPLUS

CN 2,1,3-Benzothiadiazole (7CI, 8CI, 9CI) (CA INDEX NAME)



CC 4-3 (Toxicology)

IT 51-17-2 66-71-7 86-74-8 91-19-0 91-22-5, biological studies
92-82-0 95-14-7 95-15-8 95-16-9 109-97-7 110-86-1,
biological studies 119-65-3 120-72-9, biological studies
120-73-0 229-87-8 253-52-1 253-82-7 260-94-6 271-44-3
271-63-6 271-89-6 271-95-4 273-13-2 273-21-2
273-53-0 288-13-1 288-32-4, biological studies 289-80-5
289-95-2 290-37-9 496-15-1 635-46-1

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(toxicity of, to Tetrahymena pyriformis, structure in relation to)

L65 ANSWER 32 OF 32 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1964:447843 HCAPLUS

DOCUMENT NUMBER: 61:47843

ORIGINAL REFERENCE NO.: 61:8295c-h,8296a-d

TITLE: Synthesis of some 2,2'-dibenzimidazolyl-, 2,2'-diimidazolyl-, and diimidazolylbenzene compounds

AUTHOR(S): Schuetze, Winfried

CORPORATE SOURCE: Inst. Org. Chem., Halle, Germany

SOURCE: Journal fuer Praktische Chemie (Leipzig) (1964), 24(3-4), 164-82

CODEN: JPCEAO; ISSN: 0021-8383

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

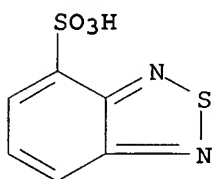
GI For diagram(s), see printed CA Issue.

AB The prepn. was described of a no. of compds. suitable for metal-complex or chelate formation. Thus, 100 g. polyphosphoric acid (I) was heated to 130° in a CaCl₂-protected flask, stirred, and 15.5 g. 1,2,3-C₆H₃(NH₂)₃.3HCl (II) added so that excessive foaming was avoided, most of the HCl removed in vacuo (water pump), 3.5 g. powd. CH₂(CONH₂)₂ (III) added, the mixt. stirred under N 30 min. at 160°, 30 min. at 220°, and 3 hrs. at 250°, cooled, dild. with 600 ml. H₂O, filtered, pH adjusted to 5 with 20% NaOH, and the solid filtered off, washed twice with H₂O and aq. NaHCO₃, and crystd. successively from concd. and 4N HCl to give 44% IV (n = 1) (as tetrahydrochloride), decompd. >220°; free base m. 155-8° (decompn.). In a similar manner II and succinic anhydride (V) (1:2 molar ratio) was heated in I to give 30% IV (n = 2) (as dihydrate), decompd. >295°. I (400 g.) was heated to 100°, stirred, treated successively

with 43 g. powd. o-C₆H₄(NH₂)₂ and 51 g. Cl₂CHCO₂H, stirred, heated 8 hrs. at 100°, cooled, dild. with 2 l. H₂O, filtered, the filtrate carefully adjusted to pH 4 with 20% NaOH, filtered, and treated with dil. aq. NaOH to ppt. 2-dichloromethylbenzimidazole, which was washed with H₂O and dissolved in a mixt. of 500 ml. H₂O and 50 ml. concd. H₂SO₄, the soln. stirred, boiled approx. 15 min., cooled, neutralized to pH 4 with 5N NaOH, treated with C, filtered, carefully neutralized with N NaOH, and the ppt. washed with hot H₂O and dried in vacuo to give 36 g. benzimidazole-2-aldehyde (VI), m. 226-8°. A mixt. of 5.8 g. powd. VI, 1.2 g. anhyd. (CH₂NH₂)₂, and 300 ml. HCONMe₂ was stirred strongly, heated a few min., cooled slowly, dild. with EtOH, and filtered off to give 5.5 g. bis(benzimidazole-2-aldehyde) ethylenediimine(VII) m. 263-5° (decompn.). A mixt. of VII, Raney Ni, and abs. dioxane was hydrogenated at room temp. for about 4 hrs. and worked up to give 40-65% N,N'-bis(gbenzimidazolylmethyl)ethylenediamine-4-HCl. A soln. (prepd. at 50°) of 84 g. 3,4-benzo-1,2,5-thiadiazole (VIII) (R = H) in 320 ml. concd. H₂SO₄ was treated with 380 ml. oleum, stirred and heated 1 hr. at 150° and 1 hr. at 170°, cooled, treated with 50 g. ice, just neutralized with concd. NaOH, filtered off, the filtrate satd. with NaCl to cause further pptn., the combined ppts. stirred with H₂O at 30-5° until a stiff paste formed, filtered off, and crystd. from H₂O to give 41% VIII (R = SO₃Na) (IX), m. 380-5°. IX (10 g.) was dissolved in a hot mixt. of 100 ml. H₂O and 40 ml. concd. HCl and treated in small portions with a total of 20 g. Zn dust and 1 g. CuCO₃ When all metal had dissolved, 20 ml. concd. HCl was added, and the soln. boiled, filtered, and cooled to give 50% 2,3-(H₂N)₂C₆H₃SO₃H (X), which was purified by recrystn. from 2N HCl and then H₂O. A mixt. of 14 g. X, 3 g. (CONH₂)₂, and 25 ml. dry (CH₂OH)₂ was heated 15 hrs. at 170° in a N atm. and filtered off. The ppt. was cooled and washed with an alc.-Et₂O mixt. to give 31% di-NH₄ 2,2'-dibenzimidazolyl-4,4'-disulfonate (XI, R = SO₃NH₄, n = 0), crystd. from dil. aq. NH₃. In a similar manner the following homologs of XI (R = SO₃H) were prepd. from X (reagent, n, and % yield given): III, 1, 56; V, 2, 62. 2,2'-Diimidazolyl (9 g., powd.) was added in portions with stirring to 30 ml. concd. H₂SO₄. When soln. was complete, 70 ml. oleum (60% SO₃) was added, the mixt. heated 10 hrs. at 150° and 5 hrs. at 180°, cooled, treated with 500 g. large pieces of ice, stirred, hot concd. Ba(OH)₂ added quickly to pH 4, then filtered off and washed with H₂O, the combined filtrates made weakly alk. and evapd. to dryness, the residue treated with 15 ml. H₂O, acidified to pH 4.5 with 20% aq. H₂SO₄, filtered, and the filtrate treated with twice its vol. of EtOH to ppt. 3 g. XII (R = H, R₁ = SO₃H). The filtrate was adjusted to pH 8 with 2N NaOH to ppt. 2 g. XII (R = R₁ = SO₃Na), which was recrystd. from H₂O. 1,2,4,5-C₆H₂(NH₂)₄.4HCl (11 g.) (XIII) was gradually added with stirring to 140 g. I (heated to 100°). HCl was removed by a water aspirator, 14 g. powd. BzNHCH₂CO₂H was added, the mixt. heated 5 hrs. at 125-30°, cooled, dild. with 100 ml. H₂O, and neutralized while stirring with concd. NH₃. The ppt. was filtered off, triturated twice with NH₃, boiled, and filtered while hot to give 76% XIV (R = BzNHCH₂) (XV), m. 330°. A mixt. of 7g. XV and 40 ml. 3N HCl was heated 24 hrs. at 160° in a sealed tube, cooled, and extd. with Et₂O. The aq. phase was evapd. to dryness to give 82% XIV (R = CH₂NH₂) (XVI) (as dihydrochloride), purified by soln. in dil. HCl, treatment with C, filtration, pptn. with NH₃, soln. in hot dil. HCl, and pptn. with concd. HCl to give XVI.2HCl, decompd. >280°; the free base decomposed >280°. V (15 g.) was added to a mixt. of 14 g.

XIII and 70 g. I, the mixt. heated 5 hrs. at 120°, treated with an equal vol. of H₂O, adjusted to pH 6 with aq. NH₃, and cooled. The ppt. was filtered off and dissolved in 40 ml. boiling H₂O contg. a few ml. 2N HCl. The soln. was decolorized with C, adjusted to pH 6 by aq. NH₃, and filtered off to give 81% XIV [R = (CH₂)₂CO₂H]; both the free acid and its dihydrochloride decompd. >300°. The structures of the new compds. were proven by degradation reactions (e.g., hydrolysis to an unsubstituted dibenzimidazole), infrared spectra (max. of which were given), and mol. wt. detns. by potentiometric titration, the results of which were tabulated.

IT 21110-86-1, 2,1,3-Benzothiadiazole-4-sulfonic acid, sodium salt
(prepn. of)
RN 21110-86-1 HCAPLUS
CN 2,1,3-Benzothiadiazole-4-sulfonic acid, sodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

CC 38 (Heterocyclic Compounds (More Than One Hetero Atom))
IT 492-98-8, 2,2'-Biimidazole 3314-30-5, 2-Benzimidazolecarboxaldehyde 21110-86-1, 2,1,3-Benzothiadiazole-4-sulfonic acid, sodium salt 28020-59-9, [2,2'-Bi-1H-imidazole]-4-sulfonic acid 89533-00-6, Benzenesulfonic acid, 2,3-diamino- 95365-59-6, Benzimidazole, 2,2'-[ethylenebis(iminomethylene)]bis-, tetrahydrochloride 95771-23-6, [2,2'-Bibenzimidazole]-4,4'(or 7,7')-disulfonic acid, diammonium salt 96987-15-4, Benzo[1,2-d:4,5-d']diimidazole-2,6-dipropionic acid 97032-61-6, 4(or 7)-Benzimidazolesulfonic acid, 2,2'-methylenebis- 97496-73-6, 4(or 7)-Benzimidazolesulfonic acid, 2,2'-ethylenebis-, ammonium salt 98030-58-1, Benzimidazole, 2,2'-ethylenebis[4(or 7)-amino- 98340-95-5, Benzimidazole, 2,2'-methylenebis[4(or 7)-amino- 98342-41-7, Benzimidazole, 2,2'-methylenebis[4(or 7)-amino-, tetrahydrochloride 98469-56-8, Benzimidazole, 2,2'-[ethylenebis(nitrilomethylidyne)]bis- 102084-75-3, Benzamide, N,N'-[(1,7-dihydrobenzo[1,2-d:4,5-d']diimidazole-2,6-diyl)dimethylene]bis-, phosphate 856772-81-1, Benzo[1,2-d:4,5-d']diimidazole, 2,6-bis(benzamidomethyl)-1,7-dihydro-, phosphate 856772-83-3, Benzo[1,2-d:4,5-d']diimidazole, 2,6-bis(aminomethyl)-1,7-dihydro- (prepn. of)

=> d 166 ibib abs hitstr hitind 1-5

L66 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:343128 HCAPLUS

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

DOCUMENT NUMBER: 144:391623
 TITLE: Electronic devices containing organic semiconductors with low halogen content
 INVENTOR(S): Spreitzer, Hubert; Falcou, Aurelie; Scheurich, Rene; Schulte, Niels; Buesing, Arne; Stoessel, Philipp
 PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
 SOURCE: PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006037458	A1	20060413	WO 2005-EP10112	20050920

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: EP 2004-23475 A 20041001

AB The invention relates to electronic devices contg. org. semiconductors with a halogen content < 20 ppm. As a result, the service life and efficiency of the corresponding electronic devices is increased, and such materials are more suitable for use in org. electronic devices than materials having higher halogen content. In one embodiment, low mol. wt. org. or polymeric semiconductors are obtained by coupling reactions involving reactive halogens, followed by optional isolation of the semiconductors, and treatment with a reducing agent until the halogen content is < 20 ppm.

IT 882567-06-8DP, ditolylaminophenyl- and dibutoxyphenyl-terminated
 RL: DEV (Device component use); IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation); USES (Uses)
 (electronic devices contg. org. semiconductors with low halogen content)

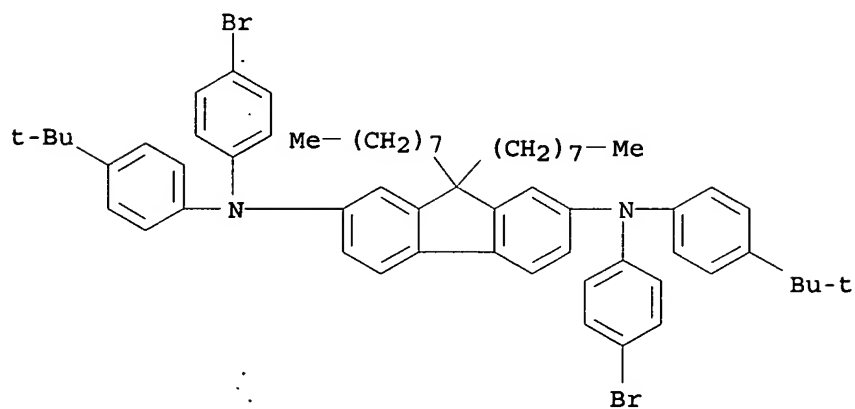
RN 882567-06-8 HCAPLUS
 CN 9H-Fluorene-2,7-diamine, N,N'-bis(4-bromophenyl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]-9,9-dioctyl-, polymer with 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole, 9-[3,4-bis(2-methylbutoxy)phenyl]-2,7-dibromo-9-(2,5-dimethylphenyl)-9H-fluorene, 2,2'-[[2-[(3,7-dimethyloctyl)oxy]-5-methoxy-1,4-phenylene]di-2,1-ethenediyl]bis[5-bromothiophene] and 2,2'-[2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene]-

2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 868703-33-7

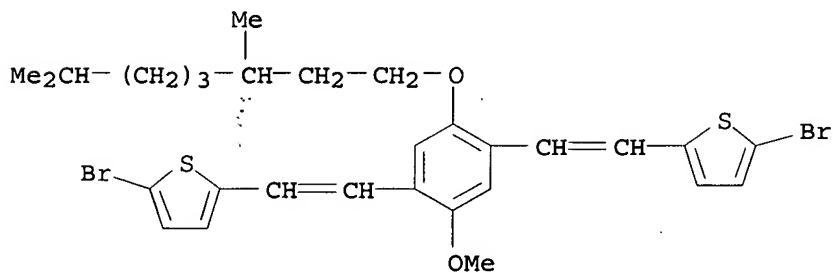
CMF C61 H74 Br2 N2



CM 2

CRN 848892-54-6

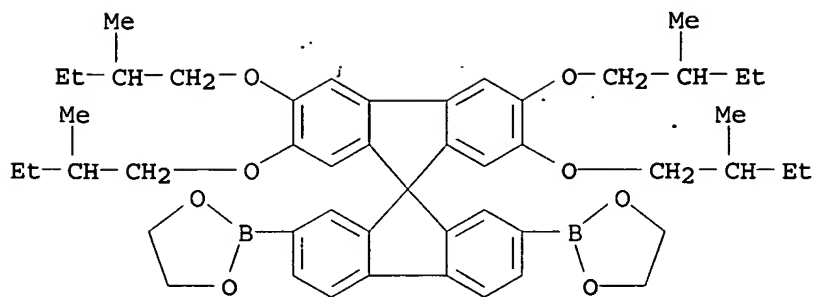
CMF C29 H34 Br2 O2 S2



CM 3

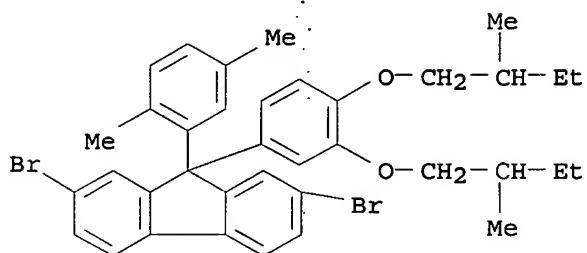
CRN 396123-43-6

CMF C49 H62 B2 O8



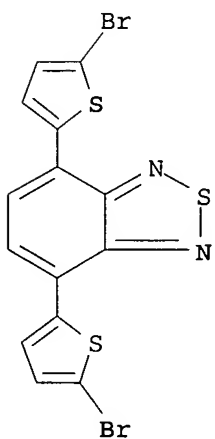
CM 4

CRN 396123-39-0
 CMF C37 H40 Br2 O2



CM 5

CRN 288071-87-4
 CMF C14 H6 Br2 N2 S3



IC ICM C08J007-00
 ICS C08G073-00; C08G061-00; C08G061-12; H01L051-00; H01L051-30
 CC 35-5 (Chemistry of Synthetic High Polymers)

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

Section cross-reference(s): 73

IT 847800-49-1DP, ditolylaminophenyl- and dibutoxyphenyl-terminated
882567-06-8DP, ditolylaminophenyl- and dibutoxyphenyl-terminated
882567-07-9DP, ditolylaminophenyl- and dibutoxyphenyl-terminated
RL: DEV (Device component use); IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation); USES (Uses)
(electronic devices contg. org. semiconductors with low halogen content)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L66 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:951198 HCAPLUS

DOCUMENT NUMBER: 143:443392

TITLE: A comparison of the photovoltaic response of head-to-head and head-to-tail coupled poly{(benzo-2,1,3-thiadiazol-4,7-diyl)-(dihexyl[2,2']dithiophene-5,5'-diyl)}

AUTHOR(S): Bundgaard, Eva; Krebs, Frederik C.

CORPORATE SOURCE: RISO National Laboratory, The Danish Polymer Center, Roskilde, DK-4000, Den.

SOURCE: Polymer Bulletin (Heidelberg, Germany) (2005), 55(3), 157-164

CODEN: POBUDR; ISSN: 0170-0839

PUBLISHER: Springer

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of two copolymers of benzothiadiazole and dihexyldithiophene were obtained by employing oxidative ferric chloride polymn. and Stille cross coupling polymn. Wt. av. mol. wts. of resp. 15200 g mol⁻¹ and 3200 g mol⁻¹ were obtained. The polymers have an optical band gap of .apprx.2 eV. Photovoltaic devices were prepd. using the pure polymer materials and mixts. of the polymers and a sol. fullerene deriv. Efficiencies of 0.024% were obtained. Head-to-head and head-to-tail coupling was not found to influence the max. photovoltaic performance that could be obtained.

IT 868394-44-9P

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)

(blends with PCBM; comparison of photovoltaic response of head-to-head and head-to-tail coupled poly{(benzo-2,1,3-thiadiazol-4,7-diyl)-(dihexyl[2,2']dithiophene-5,5'-diyl)}/PCBM blends)

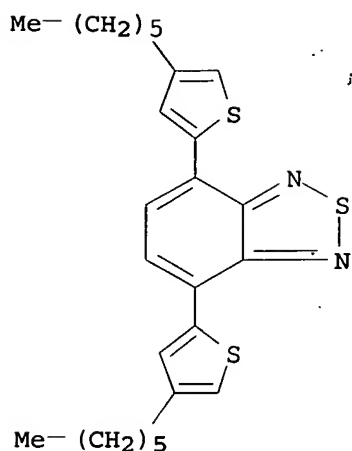
RN 868394-44-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(4-hexyl-2-thienyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 761416-46-0

CMF C26 H32 N2 S3

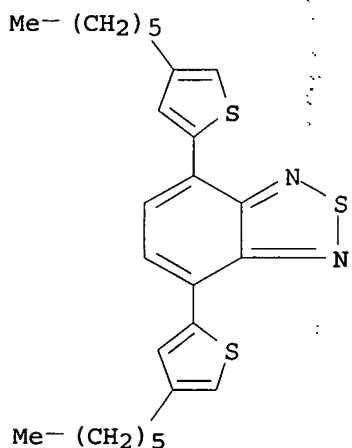


IT 761416-46-0P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent) (comparison of photovoltaic response of head-to-head and head-to-tail coupled poly{(benzo-2,1,3-thiadiazol-4,7-diyl)-(dihexyl[2,2']dithiophene-5,5'-diyl)}/PCBM blends)

RN 761416-46-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(4-hexyl-2-thienyl)- (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 36, 38, 73, 76

IT 868394-44-9P 868394-46-1P 868546-52-5P

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)

(blends with PCBM; comparison of photovoltaic response of head-to-head and head-to-tail coupled poly{(benzo-2,1,3-thiadiazol-4,7-diyl)-(dihexyl[2,2']dithiophene-5,5'-diyl)}/PCBM

blends)

IT 444579-42-4P 761416-46-0P 868394-45-0P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent) (comparison of photovoltaic response of head-to-head and head-to-tail coupled poly{(benzo-2,1,3-thiadiazol-4,7-diyl)-(dihexyl[2,2']dithiophene-5,5'-diyl)}/PCBM blends)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L66 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:681429 HCAPLUS

DOCUMENT NUMBER: 143:326713

TITLE: Synthesis, Characterization, and Optical and Electrochemical Properties of New 2,1,3-Benzoselenadiazole-Based CT-Type Copolymers

AUTHOR(S): Yasuda, Takuma; Imase, Tatsuya; Yamamoto, Takakazu

CORPORATE SOURCE: Chemical Resources Laboratory, Tokyo Institute of Technology, Yokohama, 226-8503, Japan

SOURCE: Macromolecules (2005), 38(17), 7378-7385. CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB New alternating donor-acceptor charge-transfer (CT)-type copolymers consisting of didodecyloxy-p-phenylene (Ph), N-(4-dodecyloxyphenyl)carbazole (Cz), or N-hexyldiphenylamine (Da) unit (π -electron donor) and 2,1,3-benzoselenadiazole (BSe) unit (π -electron acceptor) were prepd. by palladium-catalyzed Suzuki coupling reaction in 85-96% yields. The copolymers with the Ph and Cz units were sol. in common org. solvents and gave no.-av. mol. wts. of 8300 and 6600, resp., in GPC anal.; the copolymer with the Da unit was partly sol. in the solvents. The UV-vis absorption peak of the polymers appeared in the range of 420-530 nm in solns. and films, and the optical transition is considered to be accompanied by CT from the donor unit to the BSe unit. Quantum-chem. calcns. of a trimeric model compd. (Ph-BSe-Ph: 10) supported the notion that the optical activation of the copolymer involved the CT process. Cyclic voltammetry revealed that the copolymers were susceptible to both electrochem. oxidn. and redn., and they had a LUMO level ranging from -3.08 to -2.91 eV and a HOMO level ranging from -5.56 to -5.12 eV. Comparison of the electronic effect of the BSe unit with that of a 2,1,3-benzothiadiazole unit is discussed.

IT 865163-58-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis and characterization and optical and electrochem. properties of benzoselenadiazole-based charge transfer-type copolymers)

RN 865163-58-2 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-1,4-phenylene(hexylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73

IT 865163-51-5P 865163-52-6P 865163-53-7P 865163-54-8P

865163-55-9P 865163-56-0P 865163-57-1P 865163-58-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(synthesis and characterization and optical and electrochem.
properties of benzoselenadiazole-based charge transfer-type
copolymers)

REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L66 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1118997 HCAPLUS

DOCUMENT NUMBER: 142:248394

TITLE: Deep-Red Electroluminescent Polymers: Synthesis
and Characterization of New Low-Band-Gap
Conjugated Copolymers for Light-Emitting Diodes
and Photovoltaic Devices

AUTHOR(S): Yang, Renqiang; Tian, Renyu; Yan, Jingai; Zhang,
Yong; Yang, Jian; Hou, Qiong; Yang, Wei; Zhang,
Chi; Cao, Yong

CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials
and Devices, Key Laboratory of Special
Functional Materials and Advanced Manufacturing
Technology, South China University of
Technology, Guangzhou, 510640, Peop. Rep. China

SOURCE: Macromolecules (2005), 38(2), 244-253
CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

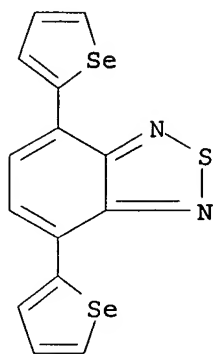
AB A novel series of semiconducting conjugated copolymers, derived from
alkyl-substituted fluorene, 4,7-diselenophen-2'-yl-2,1,3-
benzothiadiazole (SeBT), and 4,7-diselenophen-2'-yl-2,1,3-
benzoselenadiazole (SeBSe), was synthesized by a palladium-catalyzed
Suzuki coupling reaction with various feed ratios. The optical band
gap of copolymers is very low, 1.87 eV for SeBT and 1.77 eV for
SeBSe. The efficient fast energy transfer from fluorene segments to
narrow-band-gap sites was obsd. The emission of photoluminescence
and electroluminescence is dominated by narrow-band-gap species and
peaked at 670-790 nm, in the range from deep-red to near-IR (NIR).
The external electroluminescent (EL) quantum efficiencies reached
1.1% and 0.3% for devices from these two types of copolymers, resp.
Bulk-heterojunction polymer photovoltaic cells (PPVCs) made from
composite thin film of the copolymer 9,9-dioctylfluorene and SeBT
(PFO-SeBT) in blend with fullerene deriv. [6,6]-Ph C61 butyric acid
Me ester (PCBM) as an active layer show promising performances. The
energy conversion efficiency (ECE) is up to 1% under AM1.5 solar
simulator (78.2 mW/cm²). The spectral response is extended up to
675 and 750 nm for PPVCs from PFO-SeBT and PFO-SeBSe, resp.

IT 711026-53-8P 711026-54-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (synthesis and characterization of new low-band-gap conjugated
 copolymers for light-emitting diodes and photovoltaic devices)

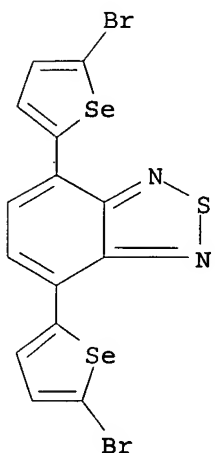
RN 711026-53-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-diselenophene-2-yl- (9CI) (CA INDEX
 NAME)



RN 711026-54-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromoselenophene-2-yl)- (9CI) (CA
 INDEX NAME)



IT 844880-67-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)

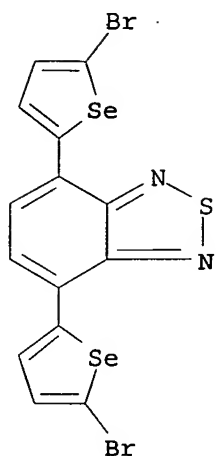
(synthesis and characterization of new low-band-gap conjugated
 copolymers for light-emitting diodes and photovoltaic devices)

RN 844880-67-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromoselenophene-2-yl)-, polymer
 with 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-
 fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)
 (CA INDEX NAME)

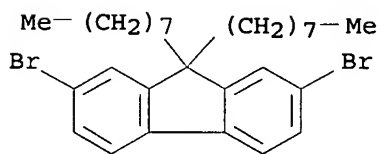
CM 1

CRN 711026-54-9
CMF C14 H6 Br2 N2 S Se2



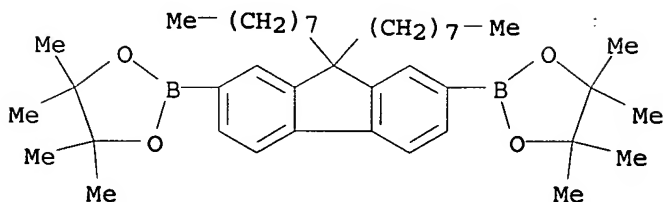
CM 2

CRN 198964-46-4
CMF C29 H40 Br2



CM 3

CRN 196207-58-6
CMF C41 H64 B2 O4



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

IT Band gap

HOMO (molecular orbital)

Luminescence

Molecular weight

Redox potential

UV and visible spectra

(of low band gap fluorene benzodiazole polymers for
light-emitting diodes)

IT 16433-88-8P 63224-42-0P 711026-53-8P

711026-54-9P 711026-58-3P 711026-59-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)

(synthesis and characterization of new low-band-gap conjugated
copolymers for light-emitting diodes and photovoltaic devices)

IT 844880-67-7P 844880-68-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(synthesis and characterization of new low-band-gap conjugated
copolymers for light-emitting diodes and photovoltaic devices)

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L66 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:372115 HCAPLUS

DOCUMENT NUMBER: 141:245958

TITLE: Low bandgap alternating polyfluorene copolymers
in plastic photodiodes and solar cellsAUTHOR(S): Inganaes, O.; Svensson, M.; Zhang, F.; Gadisa,
A.; Persson, N. K.; Wang, X.; Andersson, M. R.CORPORATE SOURCE: Biomolecular and organic electronics, IFM,
Linkopings Universitet, Linkoepping, 58183,
Swed.SOURCE: Applied Physics A: Materials Science &
Processing (2004), 79(1), 31-35
CODEN: APAMFC; ISSN: 0947-8396

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors report a comparative study of plastic photodiodes using
four different copolymers of fluorene derivs., with a variation of
alkyl side chain length and chem. structure. Photodiode materials
are formed by blending the polymers with a fullerene deriv. and
spin-coating the blend soln. A photovoltage of 1 V is obtained in
devices, where the anode is a doped polymer and the cathode is
LiF/Al. Monochromatic quantum efficiencies are better than 40% over
most of the absorption range, and under solar light AM 1.5
simulation, the authors reach energy efficiencies beyond 2%. The
high fill factors obtained in some of the devices indicate that
these are of interest for more elaborate optimization. Reasons for
the benign elec. transport are discussed.

IT 749900-94-5P 749900-96-7P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)

(DiD; low bandgap alternating poly(fluorene derivs.) copolymers
in plastic photodiodes and solar cells)

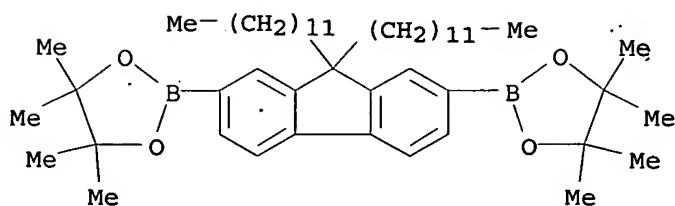
RN 749900-94-5 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,2'-(9,9-didodecyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-
1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 749900-93-4

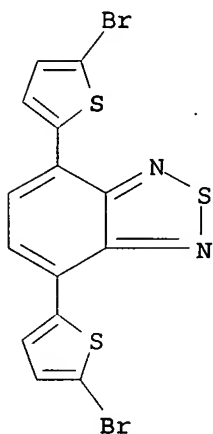
CMF C49 H80 B2 04



CM 2

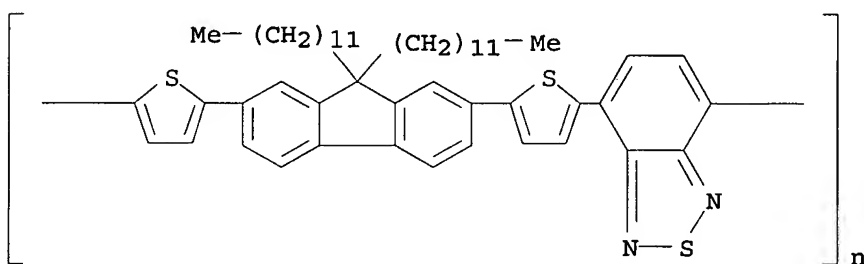
CRN 288071-87-4

CMF C14 H6 Br2 N2 S3



RN 749900-96-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-2,7-diyl-2,5-thiophenediyl(9,9-didodecyl-9H-fluorene-2,7-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)

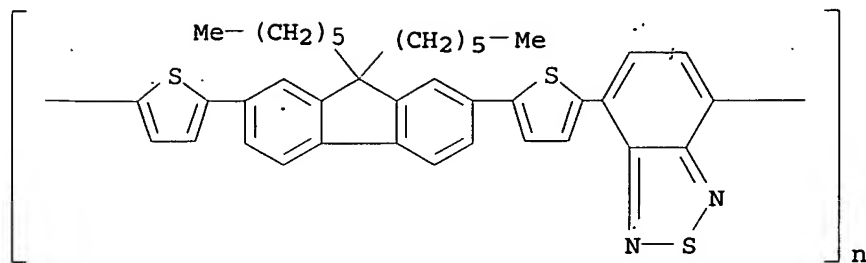


IT 749900-92-3P 749900-95-6P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (DiH; low bandgap alternating poly(fluorene derivs.) copolymers in plastic photodiodes and solar cells)

RN 749900-92-3 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl(9,9-dihexyl-9H-fluorene-2,7-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



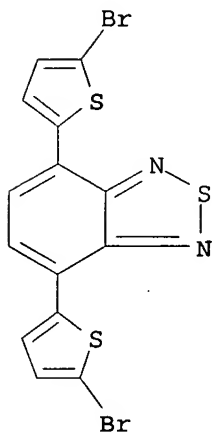
RN 749900-95-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-
dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 288071-87-4

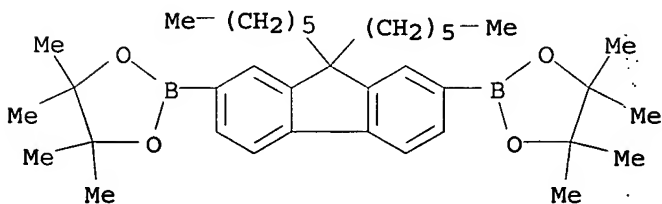
CMF C14 H6 Br2 N2 S3



CM 2

CRN 254755-24-3

CMF C37 H56 B2 O4



IT 534591-71-4P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

preparation); PREP (Preparation); USES (Uses)

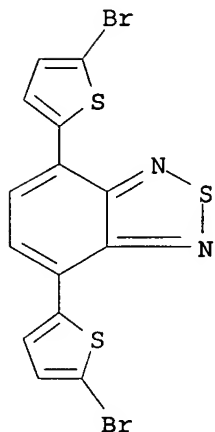
(DiO; low bandgap alternating poly(fluorene derivs.) copolymers
in plastic photodiodes and solar cells)

RN 534591-71-4 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-
dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 288071-87-4

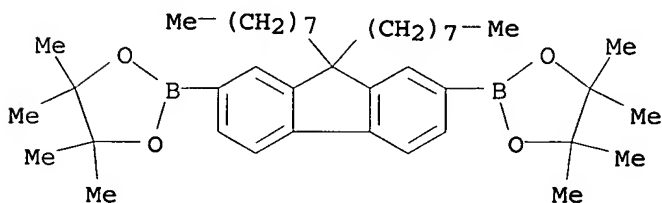
CMF C14 H6 Br2 N2 S3



CM 2

CRN 196207-58-6

CMF C41 H64 B2 O4



IT 573649-52-2P

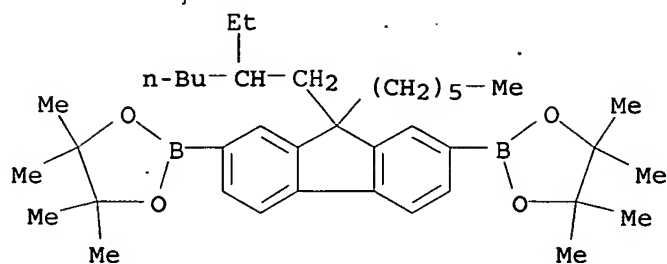
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)

(HEH; low bandgap alternating poly(fluorene derivs.) copolymers
in plastic photodiodes and solar cells)

RN 573649-52-2 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,2'-[9-(2-ethylhexyl)-9-hexyl-9H-fluorene-2,7-diyl]bis[4,4,5,5-
tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

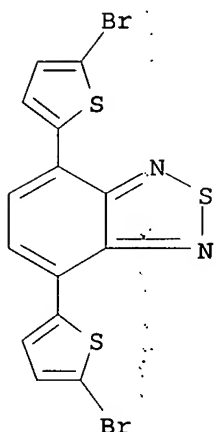
CM 1

CRN 573649-49-7
CMF C39 H60 B2 O4



CM 2

CRN 288071-87-4
CMF C14 H6 Br2 N2 S3



- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 38, 74, 76
- ST alternating fluorene deriv copolymer PCBM photodiode solar cell
anode; copolymer refractive index liq crystal transition melting
mol wt
- IT 749900-94-5P 749900-96-7P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)
(DiD; low bandgap alternating poly(fluorene derivs.) copolymers
in plastic photodiodes and solar cells)
- IT 749900-92-3P 749900-95-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)
(DiH; low bandgap alternating poly(fluorene derivs.) copolymers
in plastic photodiodes and solar cells)
- IT 534591-71-4P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)
(DiO; low bandgap alternating poly(fluorene derivs.) copolymers
in plastic photodiodes and solar cells)

IT 573649-52-2P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (HEH; low bandgap alternating poly(fluorene derivs.) copolymers in plastic photodiodes and solar cells)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l67 ibib abs hitstr hitind 1-34

L67 ANSWER 1 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:394848 HCAPLUS

DOCUMENT NUMBER: 142:431318

TITLE: Preparation of light emitting polymer

INVENTOR(S): O'Neill, Mary; Kelly, Stephen Malcolm; Contoret, Adam Edward Alexander; Richards, Gary James

PATENT ASSIGNEE(S): University of Hull, UK

SOURCE: U.S. Pat. Appl. Publ., 31 pp., Cont.-in-part of U.S. Ser. No. 187,381.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005096404	A1	20050505	US 2004-858507	20040602
US 2003018097	A1	20030123	US 2001-898748	20010703
US 2003119936	A1	20030626	US 2002-187381	20020701
US 6867243	B2	20050315	GB 2001-15986	20010629
			US 2001-898748	20010703
			US 2002-187381	20020701

AB There is provided a process for forming a light emitting polymer comprising photopolymn. of a reactive mesogen having an end group which is susceptible to photopolymn. e.g. by a radical polymn. process. Also provided are methods for using the light emitter in displays, back lights, electronic app. and security viewers. Thus, 0.026 mol 6-bromohexanoyl chloride and 0.024 mol 1,4-pentadien-3-ol

were reacted to give 4.7 g 1,4-pentadien-3-yl 6-bromohexanoate, 0.7 g of which was reacted with 0.6 g 2,7-bis[5-(4-hydroxyphenyl)thien-2-yl]-9,9-dipropylfluorene (prepn. given) to give 0.4 g 2,7-bis[5-{4-[5-(1-vinylallyloxycarbonyl)pentyloxy]phenyl}-thien-2-yl]-9,9-dipropylfluorene (yield 40%), the resulting compd. was spin cast onto a quartz substrate, baked at 50° for 30 min, heated at 90°, cooled at room temp. at a rate of 0.2°, irradiated with an argon laser to give a thin film giving photoluminescence and electroluminescence.

IT 532983-83-8P 532983-84-9P

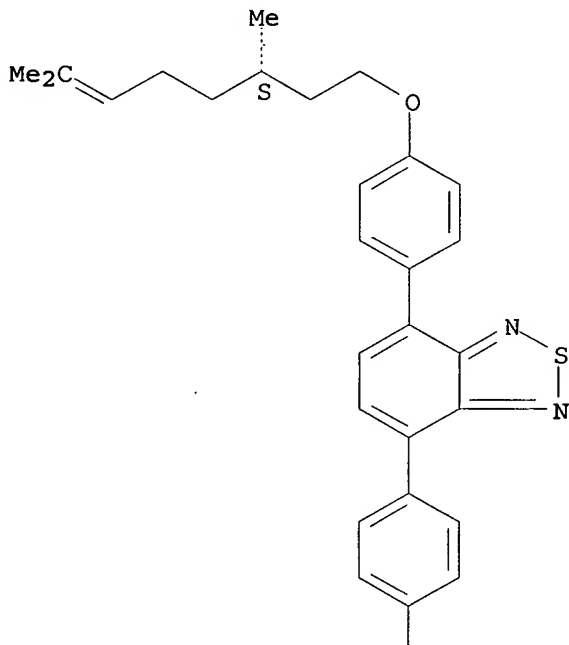
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (intermediate; prepn. of light emitting polymers)

RN 532983-83-8 HCAPLUS

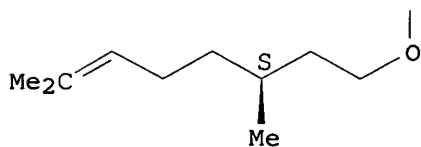
CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[[(3S)-3,7-dimethyl-6-octenyl]oxy]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

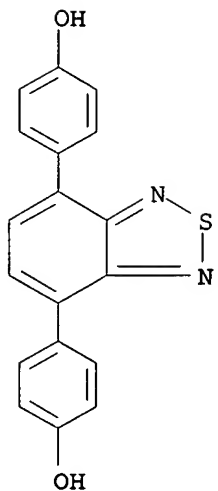


RN 532983-84-9 HCAPLUS

CN Phenol, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis- (9CI) (CA INDEX NAME)

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

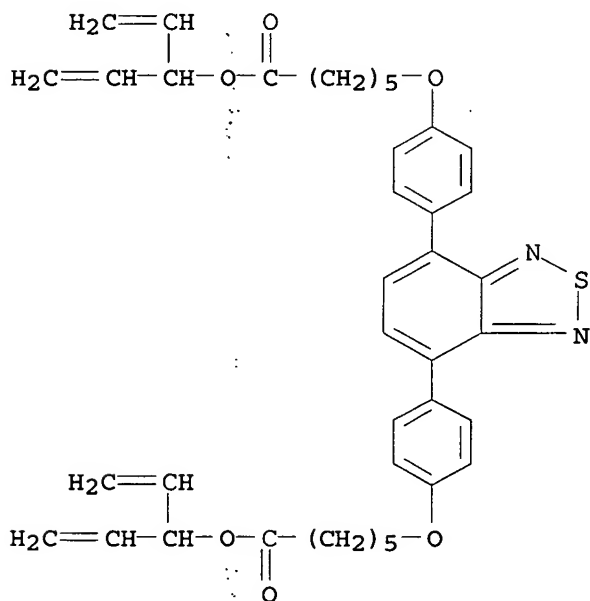


IT 532983-85-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(monomer; prepn. of light emitting polymers)

RN 532983-85-0 HCAPLUS

CN Hexanoic acid, 6,6'-[2,1,3-benzothiadiazole-4,7-diylbis(4,1-
phenyleneoxy)]bis-, bis(1-ethenyl-2-propenyl) ester (9CI) (CA INDEX
NAME)



IC ICM C08G002-00

INCL 522001000

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 35, 74

IT 927-58-2P, 4-Bromobutanoyl chloride 2294-79-3P,
9,9-Diethylfluorene 2294-82-8P, 9-Ethylfluorene 4037-45-0P,

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

9-Propylfluorene 15155-41-6P, 4,7-Dibromo-2,1,3-benzothiadiazole
63619-66-9P, 4-Bromo-4'-octyloxybiphenyl 112026-74-1P,
9,9-Dipropylfluorene 123348-27-6P 152397-22-3P 197969-58-7P,
2,7-Dibromo-9,9-diethylfluorene 319906-47-3P 426820-24-8P,
2,7-Bis(thien-2-yl)-9,9-dipropylfluorene 426820-25-9P,
2,7-Bis(5-bromothien-2-yl)-9,9-dipropylfluorene 426820-26-0P,
2,7-Bis[5-(4-methoxyphenyl)thien-2-yl]-9,9-dipropylfluorene
426820-27-1P, 2,7-Bis[5-(4-hydroxyphenyl)thien-2-yl]-9,9-
dipropylfluorene 426820-30-6P 426820-31-7P 426820-32-8P,
1,4-Pentadien-3-yl 4-bromobutanoate 488085-59-2P 488085-61-6P
532983-78-1P 532983-79-2P 532983-81-6P 532983-83-8P
532983-84-9P 548772-66-3P 850893-32-2P 850893-33-3P
850893-34-4P 850893-35-5P 850893-36-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate; prepn. of light emitting polymers)

IT 301652-15-3P 426820-34-0P 426820-35-1P 493666-76-5P
532983-80-5P 532983-85-0P 548772-59-4P 548772-60-7P
548772-61-8P 548772-62-9P 548772-63-0P 548772-64-1P
548772-65-2P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(monomer; prepn. of light emitting polymers)

L67 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:569984 HCAPLUS

DOCUMENT NUMBER: 141:131054

TITLE: Organic electroluminescent elements and
spirobifluorene derivatives useful in them
INVENTOR(S): Vestweber, Horst; Gerhard, Anja; Stoessel,
Philipp; Spreitzer, Hubert

PATENT ASSIGNEE(S): Covion Organic Semiconductors GmbH, Germany

SOURCE: PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004058911	A2	20040715	WO 2003-EP13927	20031209
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WO 2004058911	A3	20051208		
W: CN, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1578885	A2	20050928	EP 2003-782338	20031209
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1756824	A	20060405	CN 2003-80107453	20031209
<--				

JP 2006511939 T2 20060406 JP 2004-562714

200312
09US 2006063027ⁱ A1 20060323 US 2005-540461200507
21

PRIORITY APPLN. INFO.:

DE 2002-10261545 A

200212
23

WO 2003-EP13927 W

200312
09

OTHER SOURCE(S): MARPAT 141:131054

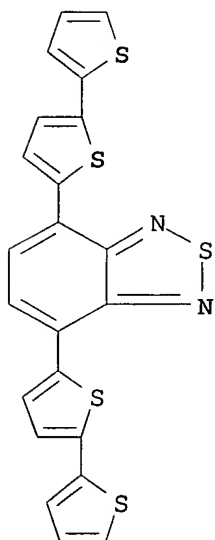
AB Org. electroluminescent devices are described in which the emitting layer consists of a mixt. of ≥ 1 hole-transporting material and ≥ 1 emitting material in a wt. ratio (hole-transporting material:emitting material) of 1:99 to 99:1 and that ≥ 1 of the substances contains ≥ 1 spiro-9,9'-bifluorene unit. Spiro-9,9'-bifluorene derivs. suitable for use in electroluminescent devices are also described.

IT 212117-54-9 643007-04-9 723285-25-4

RL: DEV (Device component use); USES (Uses)
(org. electroluminescent elements with emitting layers formed from hole transporting-emitting material mixts. and spirobifluorene derivs. useful in them)

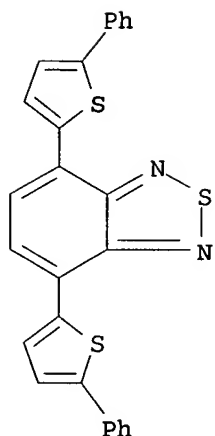
RN 212117-54-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis([2,2'-bithiophen]-5-yl)- (9CI) (CA INDEX NAME)

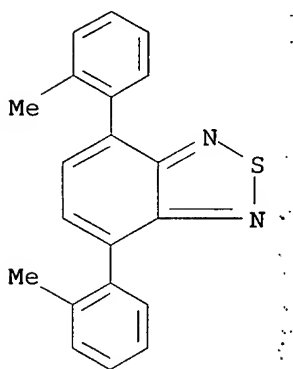


RN 643007-04-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-phenyl-2-thienyl)- (9CI) (CA INDEX NAME)



RN 723285-25-4 HCAPLUS
 CN 2,1,3-Benzothiadiazaole, 4,7-bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM C09K011-00
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 24, 76
 IT 81-88-9 91-64-5, Coumarin 92-24-0, Naphthacene 120-12-7, Anthracene, uses 129-00-0, Pyrene, uses 135-48-8, Pentacene 198-55-0, Perylene 517-51-1, Rubrene 1047-16-1, Quinacridone 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7440-06-4D, Platinum, compds. 7440-53-1D, Europium, compds. 13978-85-3 14642-34-3, Tris(8-hydroxyquinolinato)gallium 51325-91-8, 4-(Dicyanomethylene)-2-methyl-6-(4-dimethylaminostyryl)-4H-pyran 58328-31-7 73299-03-3D, Benzothiadiazaole, derivs. 94928-86-6, Tris(2-phenylpyridine)iridium 142289-08-5, 4,4'-Bis(2,2-diphenylvinyl)biphenyl 189363-47-1 200052-70-6, DCJTB 212117-54-9 214078-86-1 296269-66-4 643007-04-9 723285-19-6 723285-20-9 723285-21-0 723285-22-1 723285-23-2 723285-24-3 723285-25-4
 RL: DEV (Device component use); USES (Uses)
 (org. electroluminescent elements with emitting layers formed from hole transporting-emitting material mixts. and spirobifluorene derivs. useful in them)

L67 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:534026 HCAPLUS
 DOCUMENT NUMBER: 141:89884
 TITLE: Tricyclic arylamine containing polymers and
 electronic devices therefrom
 INVENTOR(S): Inbasekaran, Michael; Cheng, Yang; Gaynor,
 Scott; Hudack, Michelle L.; Wang, Chun; Welsh,
 Dean M.; Wu, Weishi
 PATENT ASSIGNEE(S): Dow Global Technologies Inc., USA
 SOURCE: U.S. Pat. Appl. Publ., 21 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004127666	A1	20040701	US 2002-324270	200212 19
US 6916902	B2	20050712		
WO 2004060970	A1	20040722	WO 2003-US37532	200311 24

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
 CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,
 GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK,
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
 OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR,
 TT, TZ, UA, UG, US, UZ, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
 DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
 SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG

AU 2003295875	A1	20040729	AU 2003-295875	200311 24
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EP 1576032	A1	20050921	EP 2003-787088	200311 24
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
 SK

CN 1729229	A	20060201	CN 2003-80106997	200311 24
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JP 2006511659	T2	20060406	JP 2004-565093	200311 24
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PRIORITY APPLN. INFO.:

US 2002-324270

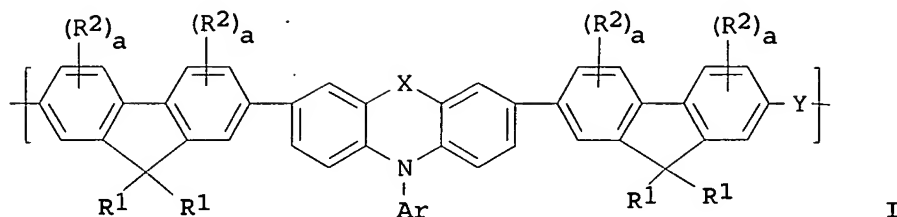
A

200212
19

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WO 2003-US37532

W
200311
24

OTHER SOURCE(S) : MARPAT 141:89884
GI



AB A compn. comprises a polymer having a repeat unit of I wherein R1 is independently in each occurrence H, C1-40 hydrocarbyl or C3-40 hydrocarbyl contg. one or more S, N, O, P or Si atoms, or both of R1 together with the 9-carbon on the fluorene, may form a C5-20 ring structure which may contain one or more S, N, or O atoms; R2 is independently in each occurrence C1-20 hydrocarbyl, C 1-20 hydrocarbyloxy, C1-20 thioether, C1-20 hydrocarbyloxycarbonyl, C1-20 hydrocarbylcarbonyloxy, or cyano; a is independently in each occurrence, 0 or 1; X is O, S, SO2, C(R3)2 or N-R3 wherein R3 is aryl or substituted aryl of C6 to C40, aralkyl of C6 to C24, or alkyl of C1 to C24. Preferably R3 is aryl of C6 to C24 and more preferably R3 is an alkylated aryl group of C6 to C24; Ar is an aryl or heteroaryl group of C6 to C40 or substituted aryl or heteroaryl group of C6 to C40, preferably C6-C24, and most preferably C6-C14. Y is a conjugated moiety that can vary in each occurrence of the repeat unit.

IT 713761-79-6P 713761-89-8P 713761-92-3P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of tricyclic arylamine contg. polymers and electronic devices made from them)

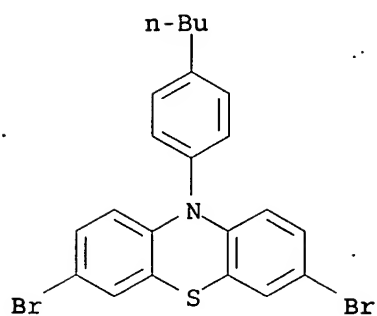
RN 713761-79-6 HCAPLUS

CN 10H-Phenothiazine, 3,7-dibromo-10-(4-butylphenyl)-, polymer with 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole, 4,7-dibromo-2,1,3-benzothiadiazole, 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 713761-21-8

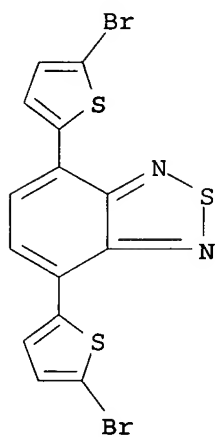
CMF C22 H19 Br2 N S



CM 2

CRN 288071-87-4

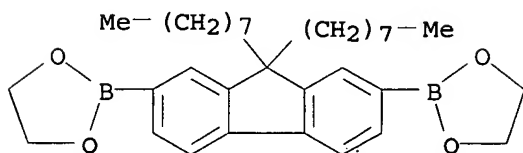
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CM 3

CRN 210347-49-2

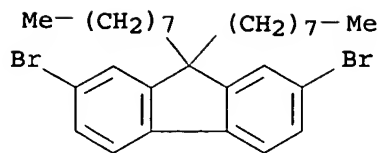
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CM 4

CRN 198964-46-4

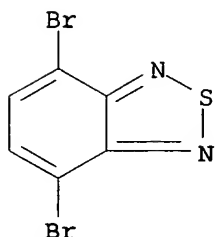
CMF C29 H40 Br2



CM 5

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



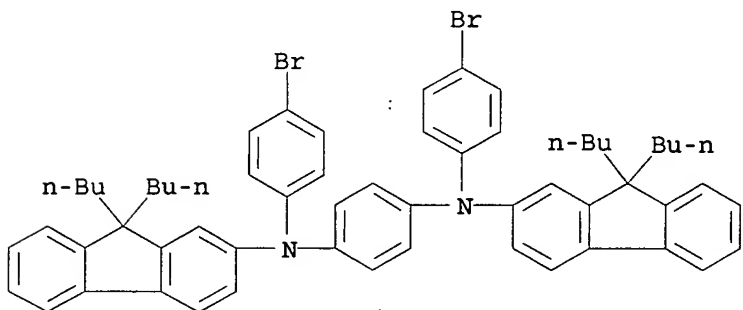
RN 713761-89-8 HCAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(9,9-dibutyl-9H-fluorene-2-yl)-, polymer with N,N-bis(4-bromophenyl)-4-methylbenzenamine, 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole, 4,7-dibromo-2,1,3-benzothiadiazole, 3,7-dibromo-10-(4-butylphenyl)-10H-phenoxazine, 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 713761-88-7

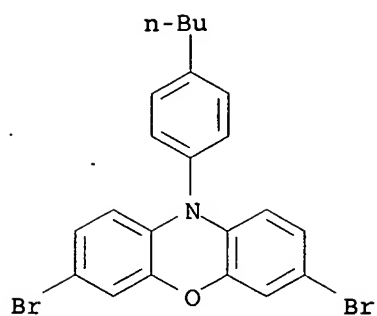
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CM 2

CRN 536762-20-6

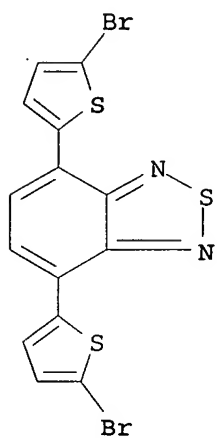
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CM 3

CRN 288071-87-4

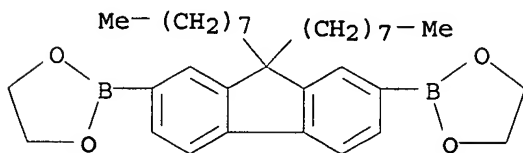
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CM 4

CRN 210347-49-2

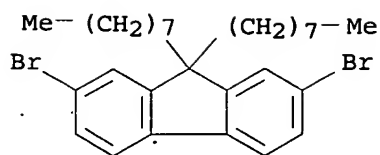
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CM 5

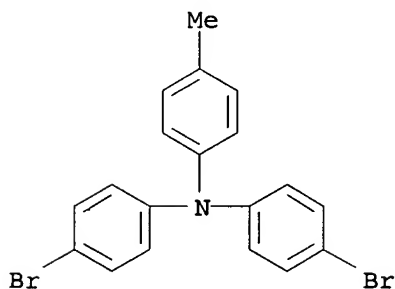
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CMF C29 H40 Br2



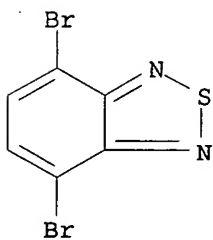
CM 6

CRN 100308-67-6
 CMF C19 H15 Br2 N



CM 7

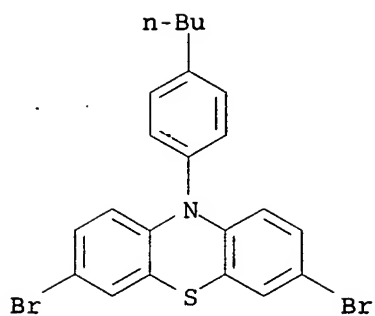
CRN 15155-41-6
 CMF C6 H2 Br2 N2 S



RN 713761-92-3 HCAPLUS
 CN 10H-Phenothiazine, 3,7-dibromo-10-(4-butylphenyl)-, polymer with
 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole,
 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-
 fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

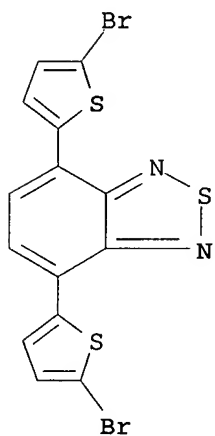
CRN 713761-21-8
 CMF C22 H19 Br2 N S



CM 2

CRN 288071-87-4

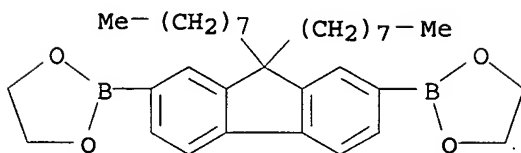
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CM 3

CRN 210347-49-2

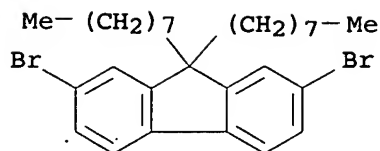
CMF C33 H48 B2 O4



CM 4

CRN 198964-46-4

CMF C29 H40 Br2



IC ICM C08G061-12

INCL 528008000

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

IT 98-80-6DP, Benzeneboronic acid, tricyclic arylamine polymer terminated with 713761-57-0DP, benzeneboronic acid-terminated compd. 713761-63-8DP, bromobenzene-terminated compd. 713761-69-4DP, bromobenzene-terminated compd. 713761-74-1DP, bromobenzene-terminated compd. 713761-79-6P 713761-84-3P 713761-89-8P 713761-92-3P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of tricyclic arylamine contg. polymers and electronic devices made from them)

REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:220631 HCAPLUS

DOCUMENT NUMBER: 140:278218

TITLE: Electrooptical devices using semiconducting polymers

INVENTOR(S): Archer, Robert; Baynes, Nicholas; Butler, Timothy; Cina, Salvatore; Foden, Clare; Forsythe, Daniel; Leadbeater, Mark; Murphy, Craig; Patel, Nalinkumar; Phillips, Nathan; Roberts, Matthew; Duggal, Anil Raj; Liu, Jie

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK; General Electric Company

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004023573	A2	20040318	WO 2003-GB3960	20030903

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WO 2004023573 A3 20040916

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,

BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
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 NE, SN, TD, TG

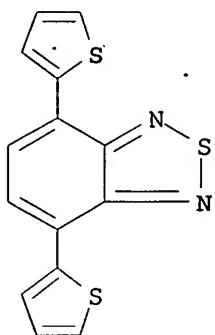
AU 2003263360	A1	20040329	AU 2003-263360	200309 03
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EP 1537612	A2	20050608	EP 2003-793923	200309 03
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CN 1689173	A	20051026	CN 2003-823552	200309 03
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JP 2005537628	T2	20051208	JP 2004-533677	200309 03
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		WO 2003-GB3960	W	200309 03

AB A method of forming an electrooptical device is described entailing providing a substrate comprising a first electrode capable of injecting or accepting charge carriers of a first type; forming over the first electrode a first layer that is at least partially insol. in a solvent by depositing a first semiconducting material (e.g., polymer) that is free of cross-linkable vinyl or ethynyl groups and is, at the time of deposition, sol. in the solvent (e.g., toluene, xylene); forming a second layer in contact with the first layer and comprising a second semiconducting material (e.g., polymer) by depositing a second semiconducting material from a soln. in the solvent; and forming over the second layer a second electrode capable of injecting or accepting charge carriers of a second type wherein the first layer is rendered at least partially insol. by one or more of heat, vacuum and ambient drying treatment following deposition of the first semiconducting material.

IT 165190-76-1D, polymer with dioctylfluorene and benzothiadiazole and TFB
 RL: DEV (Device component use); USES (Uses)
 (red electroluminescent material; electrooptical devices using semiconducting polymers)

RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



IC ICM H01L051-30
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
IT 273-13-2D, 2,1,3-Benzothiadiazole, polymer with dioctylfluorene and benzothiadiazole and TFB 165190-76-1D, polymer with dioctylfluorene and benzothiadiazole and TFB
RL: DEV (Device component use); USES (Uses)
(red electroluminescent material; electrooptical devices using semiconducting polymers)

L67 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:20781 HCAPLUS

DOCUMENT NUMBER: 140:101723

TITLE: Luminescent compositions emitting circularly polarized light and incorporating calamatic liquid crystal molecules, and light-emitting devices employing the compositions

INVENTOR(S): Kelly, Stephen Malcolm; O'Neill, Mary

PATENT ASSIGNEE(S): The University of Hull, UK

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004003108	A1	20040108	WO 2003-GB2777	20030630

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,

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SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG

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EP 1523533 A1 20050420 EP 2003-761697 200306
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PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
SK
CN 1665904 A 20050907 CN 2003-815696 200306
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JP 2005531664 T2 20051020 JP 2004-516958 200306
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US 2005253112 A1 20051117 US 2004-519761 200412
29
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PRIORITY APPLN. INFO.: GB 2002-15153 A 200207
01
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WO 2003-GB2777 W 200306
30

OTHER SOURCE(S): MARPAT 140:101723

AB Comps. capable of emitting circularly polarized light are described which comprise a medium including a chiral, helical liq. cryst. phase with a substantially fixed, temp. independent helical pitch, the liq. cryst. phase being comprised of calamatic liq. crystal mols. having a luminescent moiety and the compn. being such that excitation of the luminescent moiety causes the medium to emit light in the bandwidth of selective reflection of the liq. cryst. phase. Light-emitting devices and their fabrication are also discussed where the devices comprise of a cell having a pair of opposed sides and contg. the compn. described above, at least one of the sides being transparent to the polarized light emitted by the compn. on excitation of the luminescent moiety.

IT 643031-37-2P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

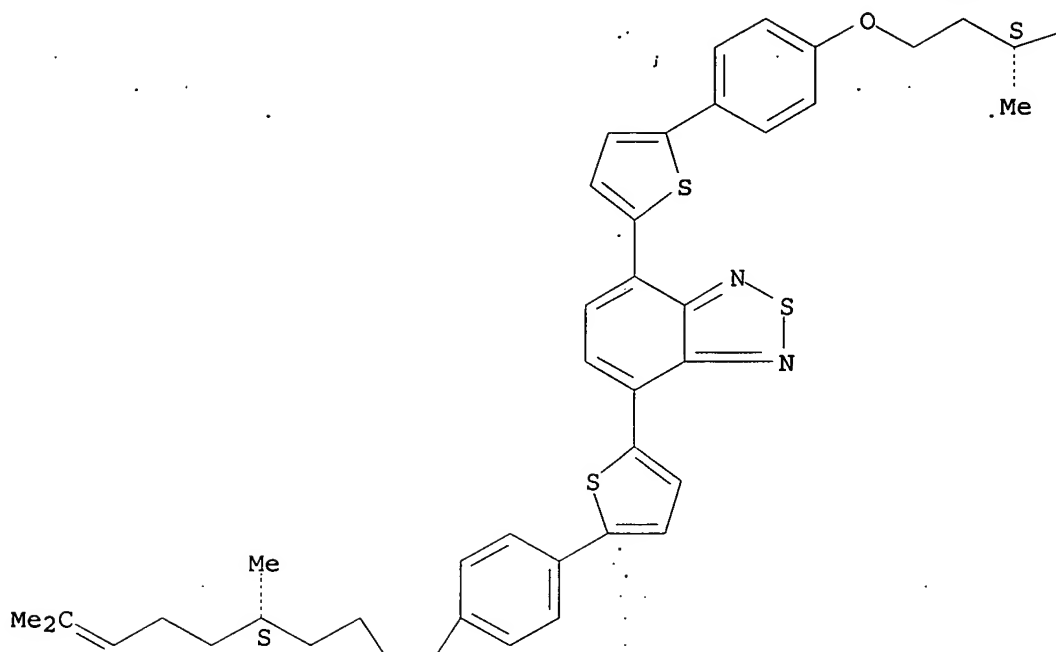
(luminescent comps. emitting circularly polarized light and incorporating calamatic liq. crystal mols., and light-emitting devices employing the comps.)

RN 643031-37-2 HCAPLUS

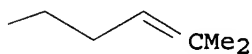
CN 2,1,3-Benzothiadiazole, 4,7-bis[5-[4-[[[(3S)-3,7-dimethyl-6-octenyl]oxy]phenyl]-2-thienyl]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PAGE 2-A



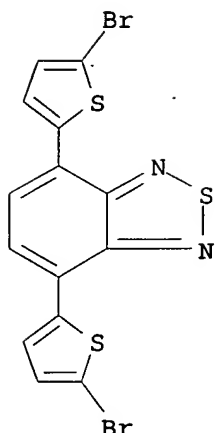
IT 288071-87-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(luminescent comps. emitting circularly polarized light and
 incorporating calamatic liq. crystal mols., and light-emitting
 devices employing the comps. prep. using)

RN 288071-87-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX
 NAME)



IC ICM C09K019-34
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 75, 76
 IT 643031-37-2P 643031-38-3P
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (luminescent comps. emitting circularly polarized light and incorporating calamatic liq. crystal mols., and light-emitting devices employing the comps.)
 IT 4037-45-0P, 9-Propylfluorene 15155-41-6P, 4,7-Dibromo-2,1,3-benzothiadiazole 56001-18-4P 288071-87-4P 312619-58-2P
 532983-81-6P 548772-66-3P 643031-31-6P 643031-32-7P
 643031-35-0P 643031-36-1P 643031-39-4P 643031-40-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (luminescent comps. emitting circularly polarized light and incorporating calamatic liq. crystal mols., and light-emitting devices employing the comps. prepd. using)
 REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:919103 HCAPLUS
 DOCUMENT NUMBER: 141:79417
 TITLE: Polymers of selenium-containing heterocycle compounds and their application in preparing luminescent materials
 INVENTOR(S): Cao, Yong; Yang, Renqiang; Yang, Wei
 PATENT ASSIGNEE(S): Huanan University of Science and Technology, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 30 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1389488	A	20030108	CN 2002-134210	20020620

PRIORITY APPLN. INFO.:

CN 2002-134210

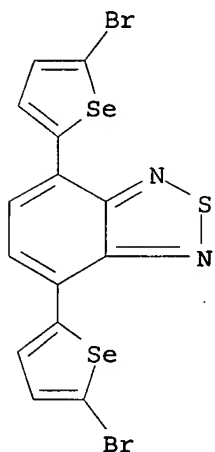
20020620

AB Title polymers are characterized by contg. structural units derived from arom. heterocyclic compds. having selenium element. The polymers of this invention have high quantum yields, good color purity, and long-term stability and are suitable by manuf. of high-resoln. full-color flat-screen displays and Photoelec. devices.

IT 711026-54-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of polymers of selenium-contg. heterocycle compds.)

RN 711026-54-9 HCAPLUS

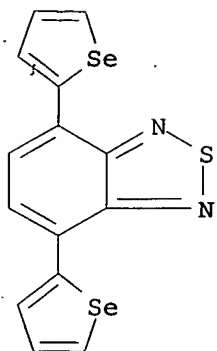
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromoselenophene-2-yl)- (9CI) (CA INDEX NAME)



IT 711026-53-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of polymers of selenium-contg. heterocycle compds.)

RN 711026-53-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-diselenophene-2-yl- (9CI) (CA INDEX NAME)



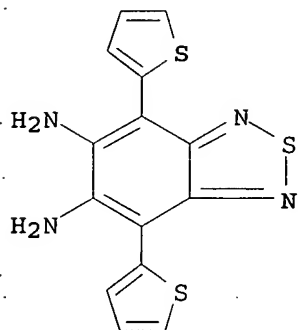
IT 165190-74-9 711026-47-0 711026-50-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of polymers of selenium-contg. heterocycle compds.)

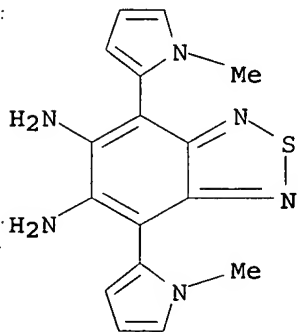
RN 165190-74-9 HCAPLUS

CN 2,1,3-Benzothiadiazole-5,6-diamine, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



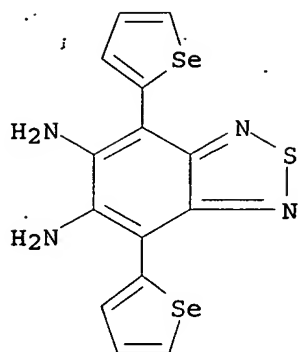
RN 711026-47-0 HCAPLUS

CN 2,1,3-Benzothiadiazole-5,6-diamine, 4,7-bis(1-methyl-1H-pyrrol-2-yl)- (9CI) (CA INDEX NAME)



RN 711026-50-5 HCAPLUS

CN 2,1,3-Benzothiadiazole-5,6-diamine, 4,7-diselenophene-2-yl- (9CI) (CA INDEX NAME)



IC ICM C08F130-04
ICS C09K011-06

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 73

IT 2255-83-6P 18557-22-7P 116886-64-7P 156210-24-1P
165617-61-8P 194553-48-5P 254755-24-3P 364333-02-8P
478706-06-8P 628336-95-8P 711026-06-1P 711026-08-3P
711026-10-7P 711026-11-8P 711026-13-0P 711026-15-2P
711026-16-3P 711026-17-4P 711026-19-6P 711026-20-9P
711026-21-0P 711026-25-4P 711026-26-5P 711026-27-6P
711026-30-1P 711026-31-2P 711026-32-3P 711026-35-6P
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711027-02-0P 711027-05-3P 711027-08-6P 711027-10-0P
711027-12-2P 711027-14-4P 711027-16-6P 711027-23-5P
711027-26-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of polymers of selenium-contg. heterocycle compds.)

IT 1123-91-7P 1123-92-8P 1755-36-8P 2626-34-8P 6825-20-3P,
3,6-Dibromo-9H-carbazole 15155-41-6P 16433-88-8P,
2,7-Dibromofluorene 21641-42-9P 63224-42-0P 69272-50-0P
79554-93-1P 103598-22-7P 141215-32-9P 150623-72-6P
173063-52-0P 174451-04-8P 175922-78-8P, 2,7-Dibromo-9,9-
didecylfluorene 188200-93-3P 196207-58-6P 198964-46-4P,
2,7-Dibromo-9,9-dioctylfluorene 357219-41-1P 448955-87-1P
534591-72-5P 711026-09-4P 711026-12-9P 711026-14-1P
711026-18-5P, 2,1,3-Benzoselenadiazole-5,6-diamine 711026-23-2P
711026-24-3P 711026-28-7P 711026-29-8P 711026-33-4P
711026-34-5P 711026-39-0P 711026-41-4P 711026-43-6P
711026-45-8P 711026-48-1P 711026-51-6P 711026-53-8P
711026-55-0P 711026-56-1P 711026-58-3P 711026-60-7P
711026-63-0P 711026-65-2P 711026-66-3P 711026-71-0P
711026-78-7P 711026-80-1P 711026-88-9P 711026-90-3P
711027-39-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(preparation); RACT (Reactant or reagent)
(prepn. of polymers of selenium-contg. heterocycle compds.)

IT 86-73-7, Fluorene 86-74-8, Carbazole 95-83-0 111-83-1,
 1-Bromooctane 273-13-2, 2,1,3-Benzothiadiazole 273-15-4,
 2,1,3-Benzoselenadiazole 288-05-1, Selenophene 431-03-8,
 2,3-Dioxobutane 496-72-0 771-97-1, 2,3-Diaminonaphthalene
 1003-09-4 1449-68-9 3141-27-3 3171-45-7 4845-50-5,
 1,4-Dioxane-2,3-diol 5348-42-5 6305-47-1, 7,8-Dioxotetradecane
 18908-66-2, 1-Bromo-2-ethylhexane 25109-24-4 52431-30-8
 54663-78-4 61676-62-8 76186-72-6 106944-14-3 116886-71-6
 118486-97-8 126554-06-1 165190-74-9 189367-54-2,
 2,7-Dibromo-9,9-dihexylfluorene 711026-22-1 711026-47-0
 711026-50-5 711026-70-9 711026-98-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of polymers of selenium-contg. heterocycle compds.)

L67 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:492727 HCAPLUS

DOCUMENT NUMBER: 139:69938

TITLE: Light emitting polymers produced by
 photopolymerization of reactive mesogens

INVENTOR(S): O'Neill, Mary; Kelly, Stephen Malcolm; Contoret,
 Adam Edward Alexander; Richards, Gary James

PATENT ASSIGNEE(S): University of Hull, UK

SOURCE: U.S. Pat. Appl. Publ., 31 pp., Cont.-in-part of
 U.S. Ser. No. 898,748.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003119936	A1	20030626	US 2002-187381	20020701
US 6867243	B2	20050315	<--	
US 2003018097	A1	20030123	US 2001-898748	20010703
US 2005004251	A1	20050106	US 2004-858864	20040601
US 2005004252	A1	20050106	US 2004-859446	20040601
US 2005096404	A1	20050505	US 2004-858507	20040602
PRIORITY APPLN. INFO.:			GB 2001-15986	A 20010629
			US 2001-898748	A2 20010703

<--
US 2002-187381

A1

200207
01

AB A process for producing a light emitting polymer comprises photopolymerization of a reactive mesogen having the formula B-S-A-S-B, where A is a chromophore, S is a spacer, and B is an end group which is susceptible to photopolymerization. A process for applying a light emitting polymer to a surface comprises applying a reactive mesogen to the surface, and photopolymerizing the reactive mesogen in situ to form the light emitting polymer, where the reactive mesogen has the formula B-S-A-S-B, where A is a chromophore, S is a spacer, and B is an end group which is susceptible to photopolymerization. The light emitting polymers can be used in production of low-cost, bright, portable displays with the benefits of simple manufacture and enhanced power efficiency, as well as in backlights, electronic devices and security viewers. Thus, a reactive mesogen, 2,7-bis(5-{4-[5-(1-vinylallyloxycarbonyl)pentyl]oxy}phenyl)thien-2-yl)-9,9-dipropylfluorene, was produced in 40% yield by reacting 2,7-bis[5-(4-hydroxyphenyl)thien-2-yl]-9,9-dipropylfluorene (1.0×10^{-3} mol) and 1,4-pentadiene-3-yl 5-bromohexanoate (2.7×10^{-3} mol) in acetonitrile (25 mL) in the presence of potassium carbonate (3.6×10^{-3} mol) by heating at 50° for 18 h. Thin film of the reactive mesogen was prepared by spin casting from a 0.5%-2% M solution in chloroform onto a quartz substrate, followed by baking at 50° for 30 min, heating to 90° and cooling at a rate of 0.2° to room temperature to form a nematic glass. The film was polymerized under nitrogen using UV at 300 nm with a constant intensity of 100 MW/cm², no photoinitiator being used.

IT 548772-78-7P 548772-79-8P 548772-80-1P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(light emitting polymers produced by photopolymerization of reactive mesogens)

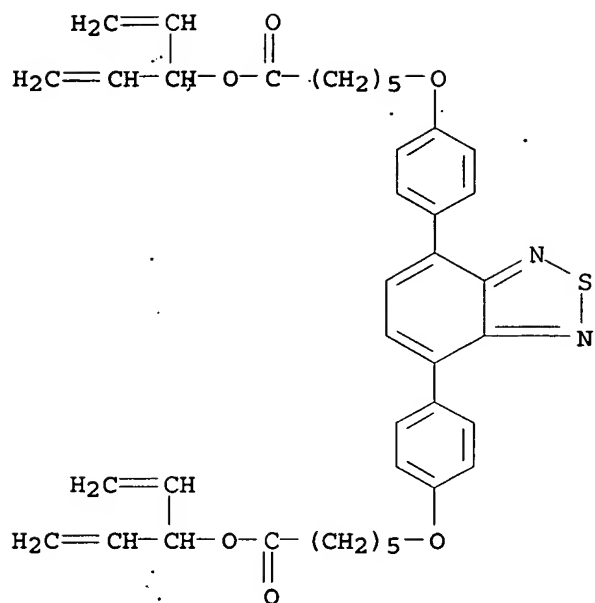
RN 548772-78-7 HCAPLUS

CN Hexanoic acid, 6,6'-[2,1,3-benzothiadiazole-4,7-diylbis(4,1-phenyleneoxy)]bis-, bis(1-ethenyl-2-propenyl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 532983-85-0

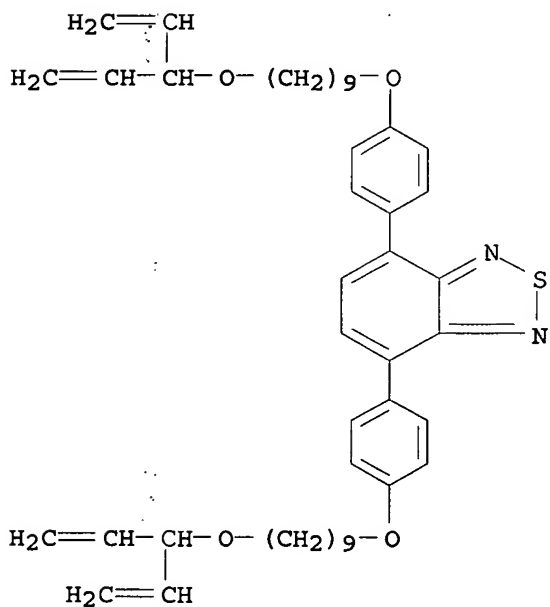
CMF C40 H44 N2 O6 S



RN 548772-79-8 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[9-[(1-ethenyl-2-propenyl)oxy]nonyl]oxy]phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 548772-67-4
 CMF C46 H60 N2 O4 S



RN 548772-80-1 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[9-[(1-ethenyl-2-propenyl)oxy]nonyl]oxy]phenyl]-, homopolymer (9CI) (CA INDEX NAME)

MEI HUANG EIC1700 REM4B28 571-272-3952

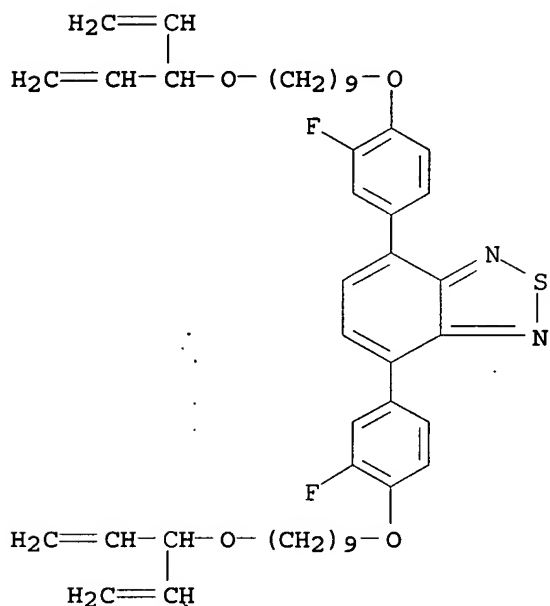
08/14/2006

propenyl)oxy]nonyl]oxy]-3-fluorophenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 548772-68-5

CMF C46 H58 F2 N2 O4 S



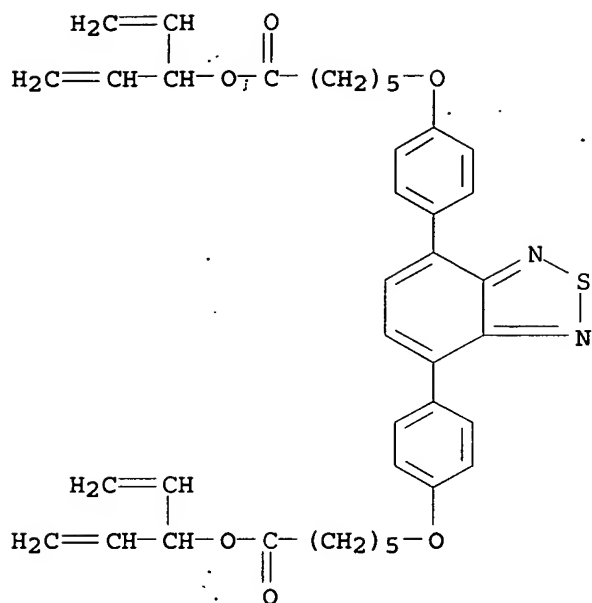
IT 532983-85-0P 548772-67-4P 548772-68-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

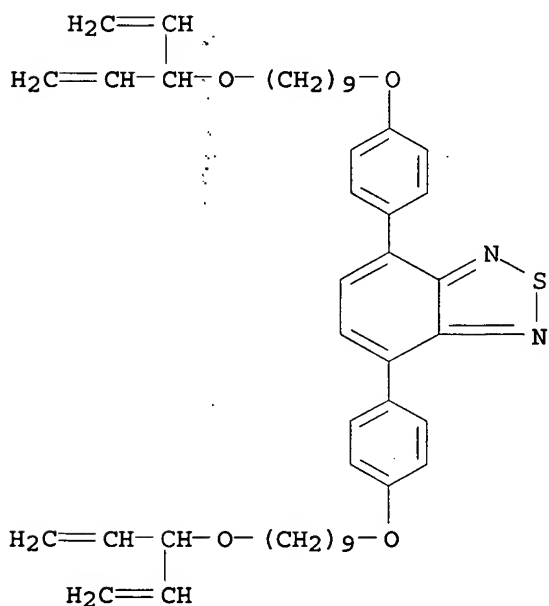
(monomer; prepn. of reactive mesogens for prodn. of light emitting polymers by photopolymn.)

RN 532983-85-0 HCAPLUS

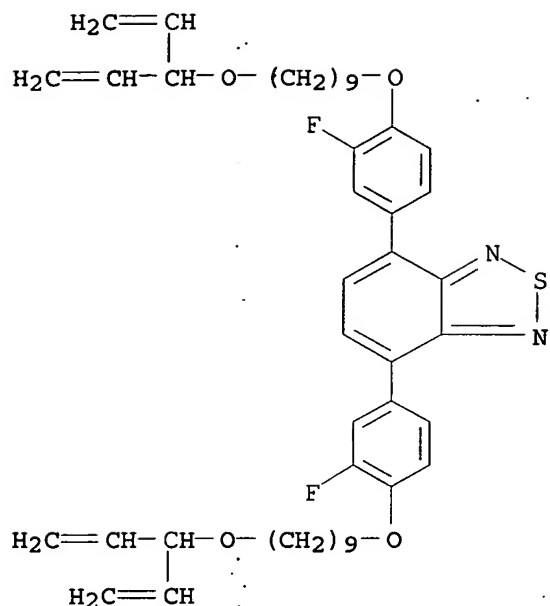
CN Hexanoic acid, 6,6'-[2,1,3-benzothiadiazole-4,7-diylbis(4,1-phenyleneoxy)]bis-, bis(1-ethenyl-2-propenyl) ester (9CI) (CA INDEX NAME)



RN 548772-67-4 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[9-[(1-ethenyl-2-propenyl)oxy]nonyl]oxy]phenyl] - (9CI) (CA INDEX NAME)



RN 548772-68-5 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[9-[(1-ethenyl-2-propenyl)oxy]nonyl]oxy]-3-fluorophenyl] - (9CI) (CA INDEX NAME)



IT 532983-83-8P 532983-84-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

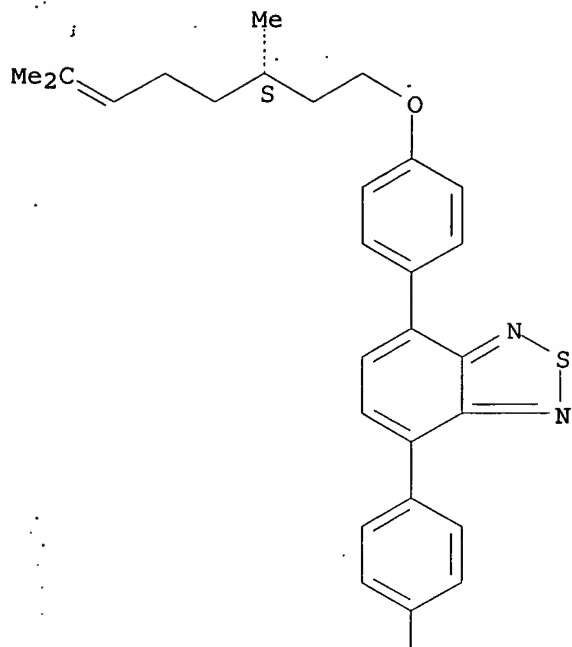
(prepn. of reactive mesogens for prodn. of light emitting polymers by photopolymer.)

RN 532983-83-8 HCAPLUS

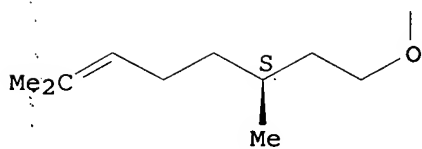
CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[[(3S)-3,7-dimethyl-6-octenyl]oxy]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

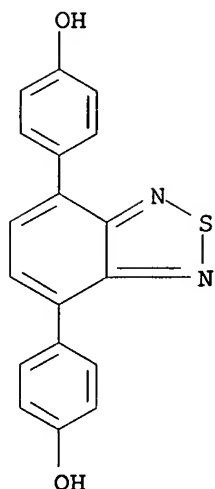
PAGE 1-A



PAGE 2-A



RN 532983-84-9 HCAPLUS
CN Phenol, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis- (9CI) (CA INDEX
NAME)



IC ICM C08G002-00
ICS C08F002-46

INCL 522168000; 522167000; 252299100

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 28, 42, 73

IT 387334-17-0P 426820-37-3P 426820-38-4P 548772-69-6P
548772-70-9P 548772-71-0P 548772-72-1P 548772-73-2P
548772-74-3P 548772-75-4P 548772-76-5P 548772-77-6P
548772-78-7P 548772-79-8P 548772-80-1P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(light emitting polymers produced by photopolymer. of reactive
mesogens)

IT 301652-15-3P 426820-34-0P 426820-35-1P 493666-76-5P
532983-80-5P 532983-85-0P 548772-59-4P 548772-60-7P
548772-61-8P 548772-62-9P 548772-63-0P 548772-64-1P
548772-65-2P 548772-67-4P 548772-68-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(monomer; prepn. of reactive mesogens for prodn. of light
emitting polymers by photopolymer.)

IT 4037-45-0P, 9-Propylfluorene 15155-41-6P, 4,7-Dibromo-2,1,3-
benzothiadiazole 112026-74-1P, 9,9-Dipropylfluorene
157771-56-7P, 2,7-Dibromo-9,9-dipropylfluorene 426820-24-8P,
2,7-Bis(Thien-2-yl)-9,9-dipropylfluorene 426820-25-9P,
2,7-Bis(5-Bromothiophen-2-yl)-9,9-dipropylfluorene 426820-26-0P,
2,7-Bis[5-(4-Methoxyphenyl)thien-2-yl]-9,9-dipropylfluorene
426820-27-1P, 2,7-Bis[5-(4-Hydroxyphenyl)thien-2-yl]-9,9-
dipropylfluorene) 426820-30-6P 426820-32-8P, 1,4-Pentadien-3-yl
4-bromobutanoate 488085-56-9P, 1,6-Heptadien-5-yl
5-bromopentanoate 488085-59-2P 488085-61-6P 532983-81-6P
532983-83-8P 532983-84-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(prepn. of reactive mesogens for prodn. of light emitting
polymers by photopolymer.)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:454383 HCAPLUS
 DOCUMENT NUMBER: 139:36985
 TITLE: Process for producing aryl-aryl coupled compounds and polymers
 INVENTOR(S): Treacher, Kevin; Stoessel, Philipp; Spreitzer, Hubert; Becker, Heinrich; Falcou, Aurelie
 PATENT ASSIGNEE(S): Covion Organic Semiconductors GmbH, Germany
 SOURCE: PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003048225	A2	20030612	WO 2002-EP13584	20021202
WO 2003048225	A3	20031127		
W: CN, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
DE 10159946	A1	20030618	DE 2001-10159946	20011206
EP 1458783	A2	20040922	EP 2002-792850	20021202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, SK				
JP 2005511807	T2	20050428	JP 2003-549410	20021202
US 2004260090	A1	20041223	US 2004-495003	20040823
US 6956095	B2	20051018		
US 2005263758	A1	20051201	US 2005-182964	20050715
PRIORITY APPLN. INFO.:			DE 2001-10159946	A 20011206
			WO 2002-EP13584	W 20021202
			US 2004-495003	A1 20040823

OTHER SOURCE(S): MARPAT 139:36985

AB The efficiency of triphenylphosphine-free Pd compd.-base mixts. as catalysts in the Suzuki reaction of halo- or sulfonyloxy-functional aryl or heteroaryl compds. with arom. or heteroarom. boron compds. is improved by using a multiphase solvent mixt. contg. ≥ 0.1 vol.% water-sol. org. compd., water-insol. org. compd., and water, with the stipulation that when alcs. or carbonyl compds. are used, they do not have α -H atoms. A typical polymer was manufd. by polymn. of 50 mol% 2,3,4,7-tetrakis(2-methylbutoxy)spirobifluorene-2,7-bis(Et boronate) with 50 mol% 2,7-dibromo-9-(2,5-dimethylphenyl)-9-[3,4-bis(2-methylbutoxy)phenyl]fluorene in PhMe 15.6, dioxane 46.9, and water 8.5 mL in the presence of 4.56 mg tri-o-tolylphosphine, 0.56 mg Pd(OAc)₂, and 4.89 g K₃PO₄·H₂O.

IT 501435-16-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of spirobifluorene-contg. compds. and polymers in presence of bases and palladium compds. as aryl-aryl Suzuki coupling reaction catalysts in multiphase solvent mixts.)

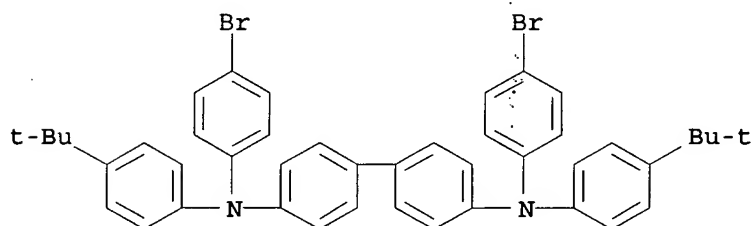
RN 501435-16-1 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(4-bromophenyl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]-, polymer with 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole, 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-[2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 463944-36-7

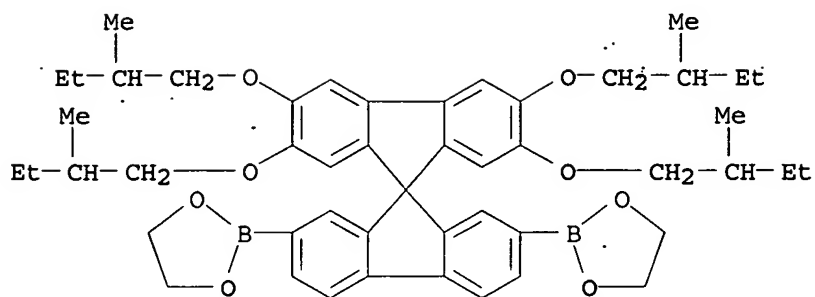
CMF C44 H42 Br2 N2



CM 2

CRN 396123-43-6

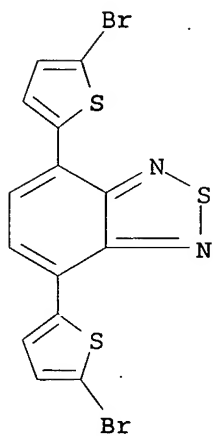
CMF C49 H62 B2 O8



CM 3

CRN 288071-87-4

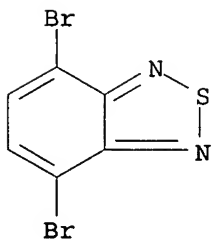
CMF C14 H6 Br2 N2 S3



CM 4

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



IC ICM C08G061-00

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25, 73, 76

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

IT 463944-39-0P 501435-16-1P 540791-05-7P 540791-09-1P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of spirobifluorene-contg. compds. and polymers in
presence of bases and palladium compds. as aryl-aryl Suzuki
coupling reaction catalysts in multiphase solvent mixts.)

L67 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:413899 HCAPLUS

DOCUMENT NUMBER: 139:7388

TITLE: Liquid crystal alignment layer, display,
reactive mesogens and polymers formed from the
reactive mesogen

INVENTOR(S): O'Neill, Mary; Kelly, Stephen Malcolm; Contoret,
Adam Edward Alexander; Richards, Gary James;
Coates, David

PATENT ASSIGNEE(S): UK

SOURCE: U.S. Pat. Appl. Publ., 39 pp., Cont.-in-part of
U.S. Ser. No. 898,749.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003099785	A1	20030529	US 2002-187396	20020701
US 2003021913	A1	20030130	US 2001-898749	20010703
PRIORITY APPLN. INFO.:			US 2001-898749	A2 20010703
			WO 1999-GB4287	W 19991216

AB A liq. crystal alignment layer comprises an alignment layer, and
chem. bound to the alignment layer, a transport material, for use in
displays for electronic app.

IT 532983-83-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)

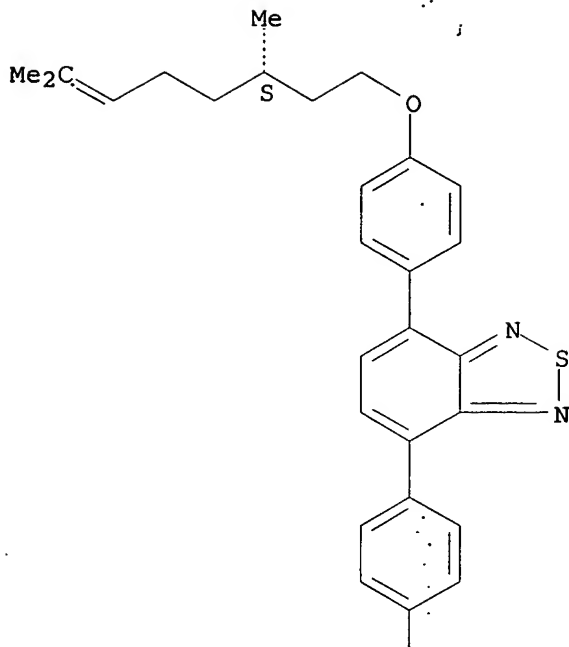
(intermediate; liq. crystal alignment layer for displays and
electroluminescent devices)

RN 532983-83-8 HCAPLUS

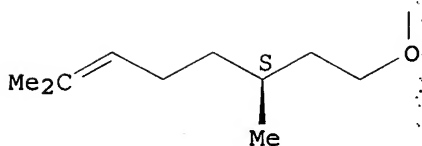
CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[[[(3S)-3,7-dimethyl-6-
octenyl]oxy]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

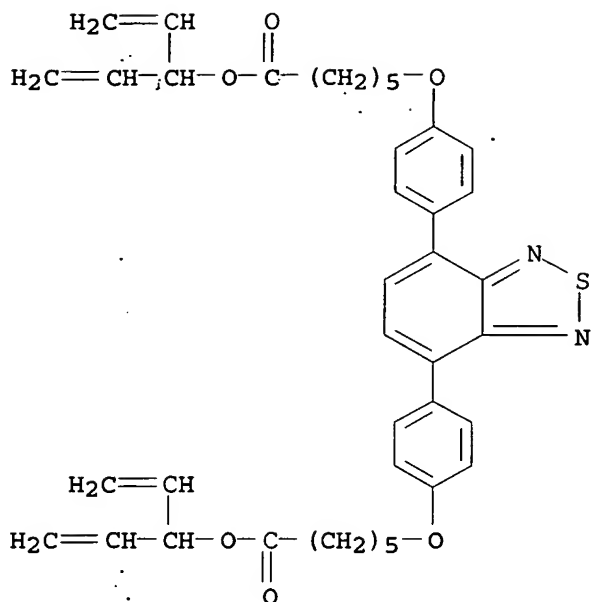
PAGE 1-A



PAGE 2-A



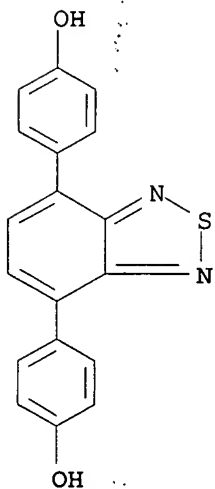
IT	532983-85-0P
	RL: IMF (Industrial manufacture); PREP (Preparation)
	(liq. crystal alignment layer for displays and electroluminescent devices)
RN	532983-85-0 HCAPLUS
CN	Hexanoic acid, 6,6'-[2,1,3-benzothiadiazole-4,7-diylbis(4,1-phenyleneoxy)]bis-, bis(1-ethenyl-2-propenyl) ester (9CI) (CA INDEX NAME)



IT 532983-84-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)(reaction with pentadien-3-yl bromopentanoate; liq. crystal
alignment layer for displays and electroluminescent devices)

RN 532983-84-9 HCAPLUS

CN Phenol, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis- (9CI) (CA INDEX
NAME)

IC ICM C09K019-00

INCL 428001260

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 75

IT 426820-27-1P, 2,7-Bis[5-(4-Hydroxyphenyl)thien-2-yl]-9,9-
dipropylfluorene 532983-83-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

(Preparation); RACT (Reactant or reagent)
(intermediate; liq. crystal alignment layer for displays and electroluminescent devices)

IT 532983-85-0P

RL: IMF (Industrial manufacture); PREP (Preparation)
(liq. crystal alignment layer for displays and electroluminescent devices)

IT 532983-84-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(reaction with pentadien-3-yl bromopentanoate; liq. crystal alignment layer for displays and electroluminescent devices)

L67 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:281860 HCAPLUS

DOCUMENT NUMBER: 138:311327

TITLE: Method of preparing photoresponsive devices, and devices made thereby

INVENTOR(S): Halls, Jonathan J.; Friend, Richard H.

PATENT ASSIGNEE(S): Cambridge Display Technology Ltd., UK

SOURCE: U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003066950	A1	20030410	US 2001-974018	20011010
US 6670213	B2	20031230		
US 2004132226	A1	20040708	US 2003-740199	20031218
			<--	
US 6872970	B2	20050329		
PRIORITY APPLN. INFO.:			US 2001-974018	A1
				20011010
				<--

AB Methods of prepg. photoresponsive devices are described which entail providing a first electrode on a substrate, providing a layer of an org. material including a blend of ≥ 2 semiconductive polymers having different electrode affinities and/or different ionization potentials over the first electrode, and providing a second electrode over the layer of org. material, ≥ 1 of the electrodes being a transparent or semi-transparent, to form a photoresponsive device, and thermally annealing the photoresponsive device. Photoresponsive devices (e.g., photodetectors and photovoltaic devices) formed using the methods are also described. Thermally annealing the photoresponsive device. is also claimed as a method of increasing the power conversion efficiency and/or quantum yield of the photoresponsive devices.

IT 483305-60-8

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(photoresponsive device fabrication and the devices)

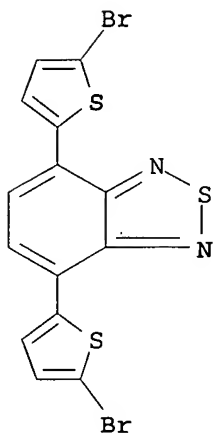
RN 483305-60-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-
fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)
(CA INDEX NAME)

CM 1

CRN 288071-87-4

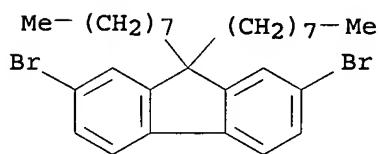
CMF C14 H6 Br2 N2 S3



CM 2

CRN 198964-46-4

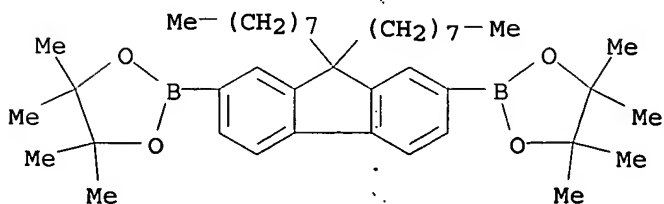
CMF C29 H40 Br2



CM 3

CRN 196207-58-6

CMF C41 H64 B2 O4

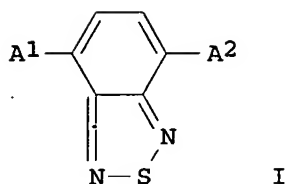


IC ICM H01L031-00
INCL 250214100
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 52, 76
IT 1332-29-2, Tin oxide 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-09-7, Potassium, uses 7440-17-7, Rubidium, uses 7440-19-9, Samarium, uses 7440-22-4, Silver, uses 7440-23-5, Sodium, uses 7440-24-6, Strontium, uses 7440-39-3, Barium, uses 7440-41-7, Beryllium, uses 7440-57-5, Gold, uses 7440-64-4, Ytterbium, uses 7440-70-2, Calcium, uses 37275-76-6, Aluminum zinc oxide 50926-11-9, Indium tin oxide 56997-34-3, Cadmium tin oxide 95270-88-5D, Polyfluorene, derivs. 104934-50-1, Poly(3-hexylthiophene) 117944-65-7, Indium zinc oxide 158346-28-2, Magnesium indium oxide 483305-60-8
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(photoresponsive device fabrication and the devices)

L67 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:277074 HCAPLUS
DOCUMENT NUMBER: 138:295026
TITLE: Fluorescent benzothiazole derivatives, liquid crystal compositions containing them, and their applications
INVENTOR(S): Mataga, Shuntaro; Gorohmaru, Hideki; Thiemann, Thies; Kadowaki, Masami; Maeda, Shuichi
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003104976	A2	20030409	JP 2002-78874	20020320
				<--
PRIORITY APPLN. INFO.:				JP 2001-223320 A
				20010724
				<--

OTHER SOURCE(S): MARPAT 138:295026
GI



AB The derivs. I [A1, A2 = B1(Y1B2)nR1; B1, B2 = 1,4-C6H4, 1,4-cyclohexylene, 1,4-cyclohexenylene, 2,5-pyridinediyl, 2,5-pyrimidinediyl, 2,5-pyridazinediyl, 1,3-dithiane-2,5-diyl, 1,3-dioxane-2,5-diyl, 1,4-piperazinediyl, 1,6-naphthylene, 2,6-quinolinediyl, 1,4-naphthylene, 2,5-thiophenediyl, etc. these rings may be substituted with F, Cl, Br, Me, OMe, OH, cyano, NO2; Y1 = direct bond, CO2, OCH2, CH:N, C.tplbond.C, O, COS, CON, N:N; n = 0, 1; R1 = C1-20 (halo)alkyl, C1-20 (halo)alkoxy, C2-20 (halo)alkoxyalkyl, C1-20 (halo)alkylthio] and liq. crystal compns. contg. ≥ 1 I are claimed. Also claimed are liq. crystal displays, wavelength converters, electroluminescent devices, and charge-transporting materials using the liq. crystal compns. and photoelec. converters using the charge-transporting materials. A compn. contg. 4,7-bis(4-methoxyphenyl)-1,2,3-benzothiadiazole and ZLI-4792 showed good dichroism.

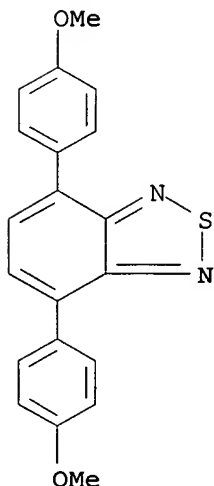
IT 503862-08-6P 503862-09-7P

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(prepn. of fluorescent benzothiazole derivs., liq. crystal compns. contg. them, and their applications)

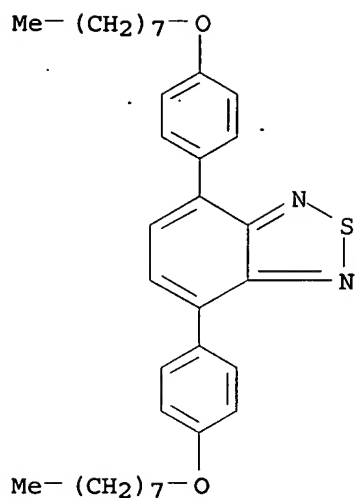
RN 503862-08-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 503862-09-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



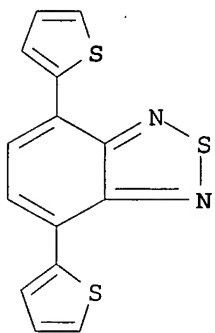
IT 165190-76-1 287976-96-9 503862-10-0
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 503862-14-4 503862-15-5 503862-16-6
 503862-17-7 503862-18-8 503862-19-9
 503862-20-2 503862-21-3

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(prepn. of fluorescent benzothiazole derivs., liq. crystal compns. contg. them, and their applications)

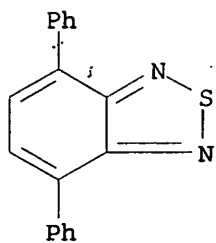
RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiaazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)

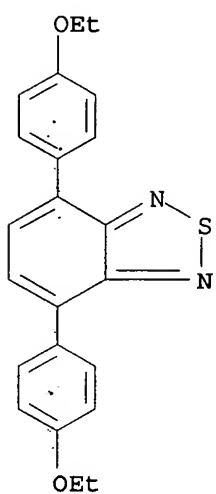


RN 287976-96-9 HCAPLUS

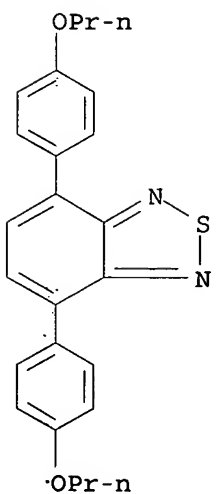
CN 2,1,3-Benzothiadiaazole, 4,7-diphenyl- (9CI) (CA INDEX NAME)



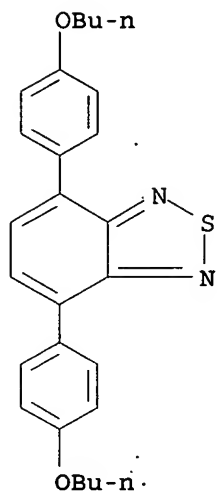
RN 503862-10-0 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(4-ethoxyphenyl)- (9CI) (CA INDEX
NAME)



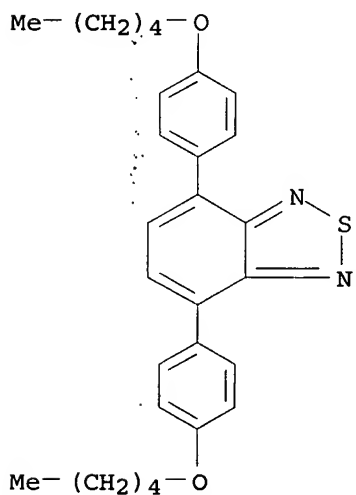
RN 503862-11-1 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(4-propoxyphenyl)- (9CI) (CA INDEX
NAME)



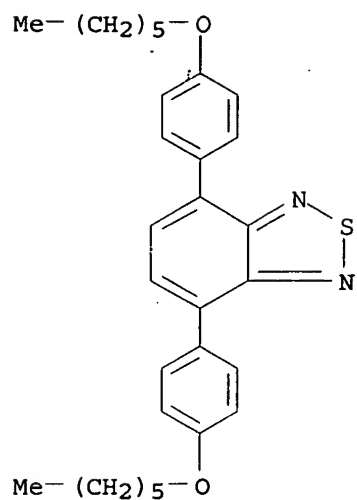
RN 503862-12-2 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(4-butoxyphenyl)- (9CI) (CA INDEX NAME)



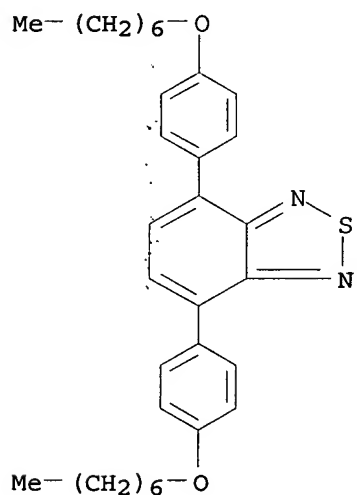
RN 503862-13-3 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(pentyloxy)phenyl]- (9CI) (CA INDEX NAME)



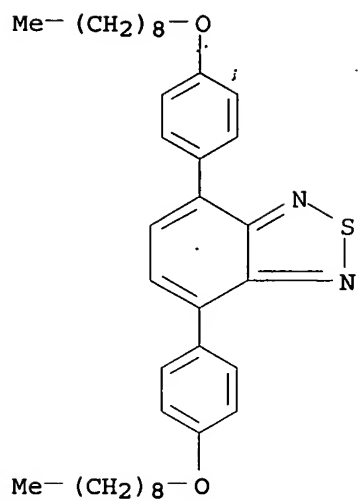
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CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(hexyloxy)phenyl]- (9CI) (CA INDEX NAME)



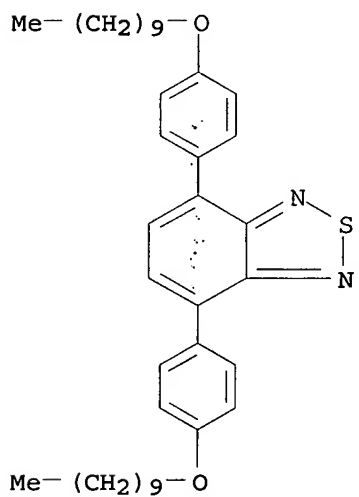
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INDEX NAME)



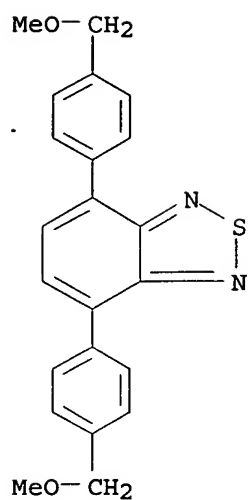
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INDEX NAME)



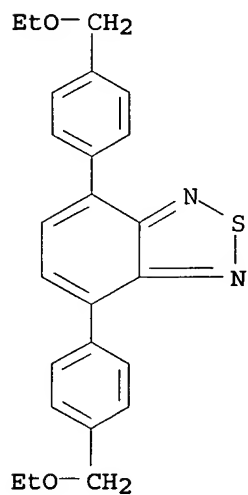
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CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(decyloxy)phenyl]- (9CI) (CA
INDEX NAME)



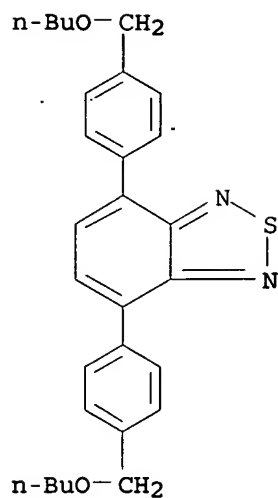
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INDEX NAME)



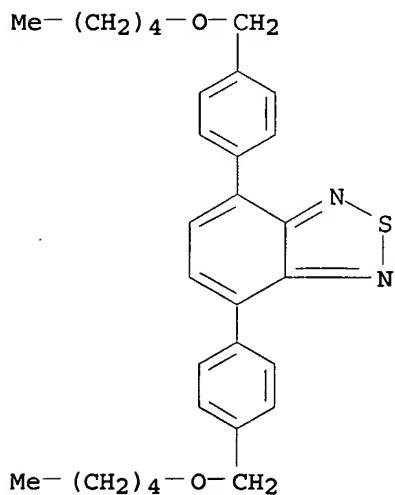
RN 503862-19-9 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(ethoxymethyl)phenyl]- (9CI) (CA
INDEX NAME)



RN 503862-20-2 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(butoxymethyl)phenyl]- (9CI) (CA
INDEX NAME)



RN 503862-21-3 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[4-[(n-butoxy)methyl]phenyl]- (9CI)
 (CA INDEX NAME)



IC ICM C07D285-10
 ICS C07D417-14; C09K011-06; C09K019-60; G02F001-13; H05B033-14
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 28
 IT 503862-08-6P 503862-09-7P
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); TEM
 (Technical or engineered material use); PREP (Preparation); USES
 (Uses)
 (prepn. of fluorescent benzothiazole derivs., liq. crystal
 comps. contg. them, and their applications)
 IT 165190-76-1 287976-96-9 503862-10-0
 503862-11-1 503862-12-2 503862-13-3
 503862-14-4 503862-15-5 503862-16-6

503862-17-7 503862-18-8 503862-19-9

503862-20-2 503862-21-3

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(prepn. of fluorescent benzothiazole derivs., liq. crystal compns. contg. them, and their applications)

L67 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:202698 HCAPLUS

DOCUMENT NUMBER: 138:238568

TITLE: Conjugated polymers containing spirobifluorene units and the use thereof

INVENTOR(S): Becker, Heinrich; Treacher, Kevin; Spreitzer, Hubert; Falcou, Aurelie; Stoessel, Philipp; Buesing, Arne; Parham, Amir

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 58 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003020790	A2	20030313	WO 2002-EP9628	20020829

WO 2003020790 A3 20030912 <--

W: CN, JP, KR, US

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR

DE 10143353	A1	20030320	DE 2001-10143353	20010904
EP 1427768	A2	20040616	EP 2002-772227	20020829

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR, BG, CZ, EE, SK

CN 1551895	A	20041201	CN 2002-817358	20020829
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JP 2005508401	T2	20050331	JP 2003-525057	20020829
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US 2005038223	A1	20050217	US 2004-488625	20040910
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PRIORITY APPLN. INFO.:

DE 2001-10143353	A	20010904
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WO 2002-EP9628	W
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200208
29

AB Spirobifluorene-type unit-contg. conjugated polymer, useful in optoelectronic devices, are manufd. contg. ≥ 1 addnl. unit that (a) improves the insertion or transportation of holes, (b) improves the insertion or transportation of electrons, (c) accomplishes both (a) and (b), and (d) exhibits phosphorescence. A typical polymer was manufd. by polymn. of 1.768 g 2,7-dibromo-2',3',6',7'-tetrakis(2-methylbutoxy)spirobifluorene with 0.183 g N,N'-bis(4-bromophenyl)-N,N'-bis(4-tert-butylphenyl)benzidine by the Yamamoto coupling in PhMe-DMF mixt. in the presence of 1,5-cyclooctadiene, Ni(COD)₂, and 2,2'-bipyridyl.

IT 501435-16-1P 501435-24-1P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(conjugated polymers contg. spirobifluorene units and units that phosphoresce for optoelectronic devices)

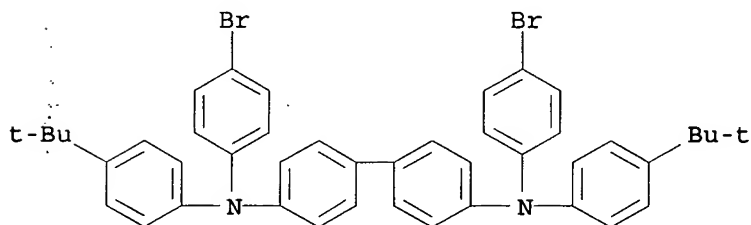
RN 501435-16-1 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(4-bromophenyl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]-, polymer with 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole, 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-[2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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CRN 463944-36-7

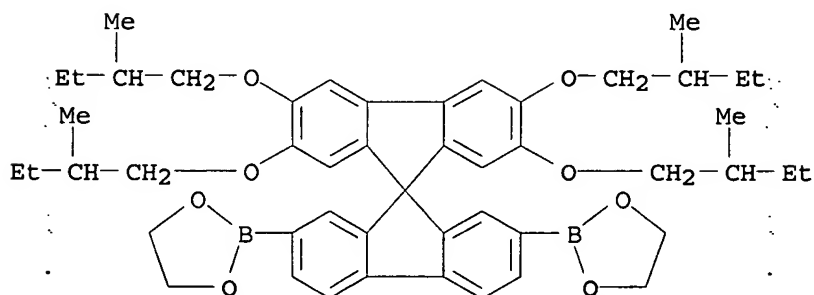
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CM 2

CRN 396123-43-6

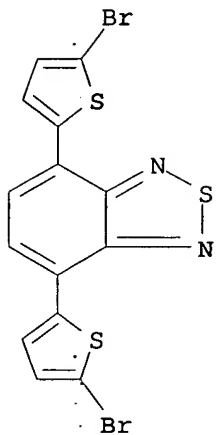
CMF C49 H62 B2 O8



CM 3

CRN 288071-87-4

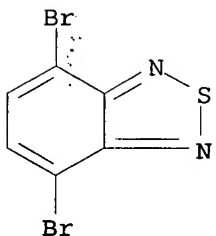
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CM 4

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



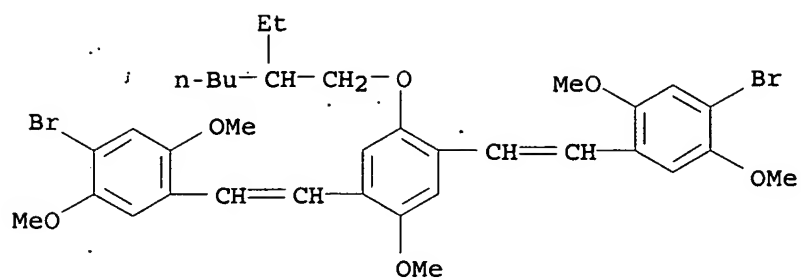
RN 501435-24-1 HCAPLUS

CM 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with 1,4-bis[2-(4-bromo-2,5-dimethoxyphenyl)ethenyl]-2-[(2-ethylhexyl)oxy]-5-methoxybenzene, 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-[2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 501434-75-9

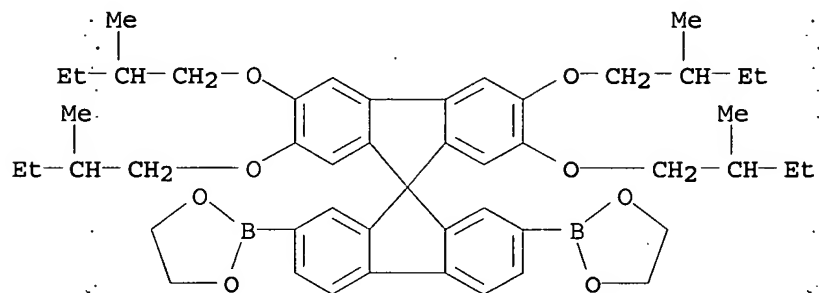
CMF C35 H42 Br2 O6



CM 2

CRN 396123-43-6

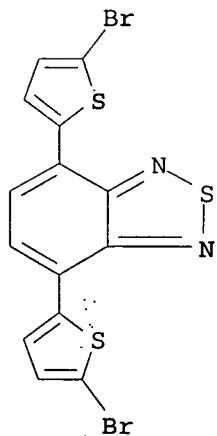
CMF C49 H62 B2 O8



CM 3

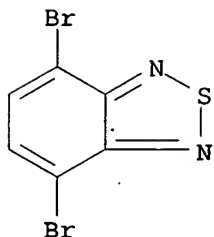
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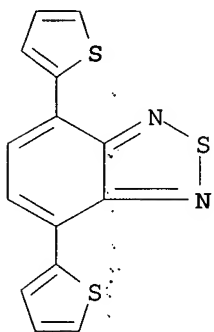


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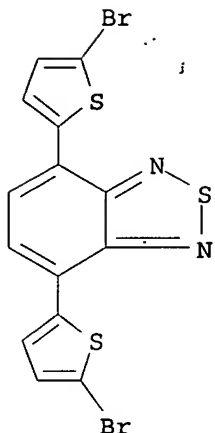
CRN 15155-41-6
CMF C6 H2 Br2 N2 S



IT 165190-76-1P, 4,7-Bis(thien-2-yl)-2,1,3-benzothiadiazole
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(monomer precursor; conjugated polymers contg. spirobifluorene
units and units that phosphoresce for optoelectronic devices)
RN 165190-76-1 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



IT 288071-87-4P, 4,7-Bis(2-bromo-5-thienyl)-2,1,3-
benzothiadiazole
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(monomer; conjugated polymers contg. spirobifluorene units and
units that phosphoresce for optoelectronic devices)
RN 288071-87-4 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX
NAME)



- IC ICM C08G061-00
ICS C09K011-06; H05B033-14; H01L051-30
- CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73, 76
- IT 501434-82-8P 501434-82-8P 501434-85-1P 501434-87-3P
501434-88-4P 501434-90-8P 501434-92-0P 501434-94-2P
501434-95-3P 501434-96-4P 501434-97-5P 501434-98-6P
501434-99-7P 501435-00-3P 501435-01-4P 501435-03-6P
501435-04-7P 501435-05-8P 501435-07-0P 501435-08-1P
501435-10-5P 501435-11-6P 501435-12-7P 501435-13-8P
501435-14-9P 501435-15-0P 501435-16-1P 501435-17-2P
501435-18-3P 501435-20-7P 501435-21-8P 501435-23-0P
501435-24-1P 501435-25-2P 501435-26-3P 501435-27-4P
501435-28-5P 501435-29-6P 501435-30-9P 501657-52-9P
RL: IMF (Industrial manufacture); PRP (Properties); PREP
(Préparation)
(conjugated polymers contg. spirobifluorene units and units that
phosphoresce for optoelectronic devices)
- IT 165190-76-1P, 4,7-Bis(thien-2-yl)-2,1,3-benzothiadiazole
501434-69-1P, 5'-tert-Butyl-2'-(4''-tert-butylphenyl)-2,3-bis(2-
methylbutyloxy)biphenyl 501434-70-4P, 2-Bromo-5'-tert-butyl-2'-
(4''-tert-butylphenyl)-4,5-bis(2-methylbutyloxy)biphenyl
501434-74-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Préparation); RACT (Reactant or reagent)
(monomer precursor; conjugated polymers contg. spirobifluorene
units and units that phosphoresce for optoelectronic devices)
- IT 94544-77-1P, 5,8-Dibromo-2,3-diphenylquinoxaline
288071-87-4P, 4,7-Bis(2-bromo-5-thienyl)-2,1,3-
benzothiadiazole 501434-68-0P, 2,7-Dibromo-8'-tert-butyl-5'-(4''-
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501434-71-5P 501434-72-6P 501434-73-7P, 4-Bromo-7-(2-bromo-5-
thienyl)-2,1,3-benzothiadiazole 501434-75-9P, 1-(2-Ethylhexyloxy)-
4-methoxy-2,5-bis-(4-bromo-2,5-dimethoxystyryl)benzene
501434-76-0P, 2,3,6,7-Tetrakis(2-methylbutoxy)-2',7'-bis(4-
bromostyryl)-9,9'spirobifluorene 501434-78-2P,
1,4-Dibromo-2,5-(4-fluorostyryl)benzene 501434-80-6P,
2,7-Dibromo-2',7'-(N,N-diphenylamino)-9,9'-spirobifluorene
501657-51-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Préparation); RACT (Reactant or reagent)

(monomer; conjugated polymers contg. spirobifluorene units and units that phosphoresce for optoelectronic devices)

L67 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:174553 HCAPLUS
 DOCUMENT NUMBER: 138:212906
 TITLE: Optoelectronic display operating by
 photoluminescence quenching
 INVENTOR(S): Smith, Euan Christopher; Gunner, Alec Gordon
 PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK
 SOURCE: Brit. UK Pat. Appl., 62 pp.
 CODEN: BAXXDU
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2379317	A1	20030305	GB 2001-21077	20010830
WO 2003021340	A2	20030313	WO 2002-GB3935	20020829
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WO 2003021340	A3	20030508		
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US 2004263045	A1	20041230	US 2004-488419	20040826
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PRIORITY APPLN. INFO.:			GB 2001-21077	A 20010830
<--				
			WO 2002-GB3935	W 20020829
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AB App. and methods of displaying information using photoluminescence quenching are discussed, where the methods entail providing an optoelectronic display comprising a photoluminescent material between a pair of electrodes; providing illumination for the photoluminescent material to cause the photoluminescent material to				

photoluminesce; and biasing the electrodes to at least partially quench the photoluminescence. Optoelectronic displays operating on the principle of quenched photoluminescence are described which comprise a first electrode; a second electrode; and a visible display element located between the first and second electrodes, the display element comprising photoluminescent material, the device being configured to at least partially quench photoluminescence from the photoluminescent material upon application of a voltage between the first and second electrodes and thereby visibly change from a photoluminescent emissive state to a reduced emissivity state to provide a visual display. Optoelectronic displays are described which comprise a semiconductor layer in the form of a film of org. photoluminescent material, a first elec. contact layer proximate a first surface of the semiconductor layer, and a second elec. contact layer proximate a second surface of the semiconductor layer; and a light source to illuminate the photoluminescent material to stimulate photoluminescence from the material.

IT 288073-60-9

RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)

(luminescent blend contg.; optoelectronic displays operating by photoluminescence quenching and employing)

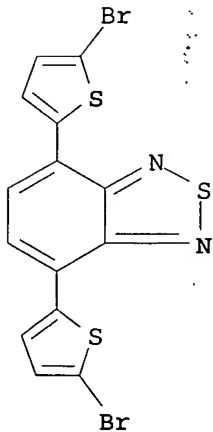
RN 288073-60-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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CRN 288071-87-4

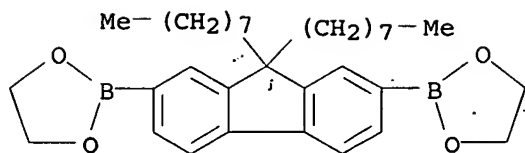
CMF C14 H6 Br2 N2 S3



CM 2

CRN 210347-49-2

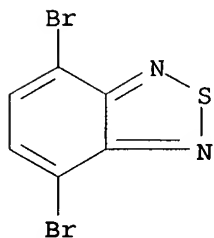
CMF C33 H48 B2 O4



CM 3

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



IC ICM H01L051-20

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 73, 76

IT 288073-60-9

RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)

(luminescent blend contg.; optoelectronic displays operating by photoluminescence quenching and employing)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:76836 HCAPLUS

DOCUMENT NUMBER: 138:137724

TITLE: Light-emitting organic oligomer compositions

INVENTOR(S): Chen, Shaw H.; Geng, Yanhou

PATENT ASSIGNEE(S): University of Rochester, USA

SOURCE: PCT Int. Appl., 79 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003008475	A2	20030130	WO 2002-US23106	20020722
WO 2003008475	A3	20030424		

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 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
 TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
 TG

US 2003039838 A1 20030227 US 2002-199099

200207
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US 7057009 B2 20060606
 EP 1425168 A2 20040609 EP 2002-747064

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PRIORITY APPLN. INFO.: US 2001-307065P P

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WO 2002-US23106 W

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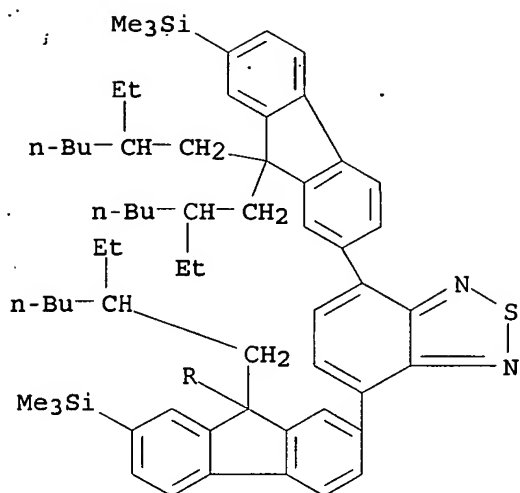
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AB Photonic materials include light-emitting org. oligomer compns. that
 include at least one light-emitting oligomer. The oligomer compns.
 include oligofluorenes having chiral and/or achiral pendants. The
 oligomer compns. also include spiro-linked oligofluorenes and fully
 spiro-configured terfluorenes. Methods for synthesizing
 light-emitting org. oligomer compns. include prepg. fluorene-based
 oligomers by convergent/divergent synthesis.

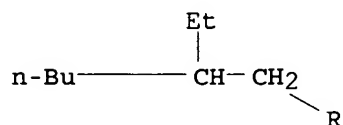
IT 491880-81-0P 491880-82-1P 491880-95-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (light-emitting org. oligomer compns.)

RN 491880-81-0 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[9,9-bis(2-ethylhexyl)-7-
 (trimethylsilyl)-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

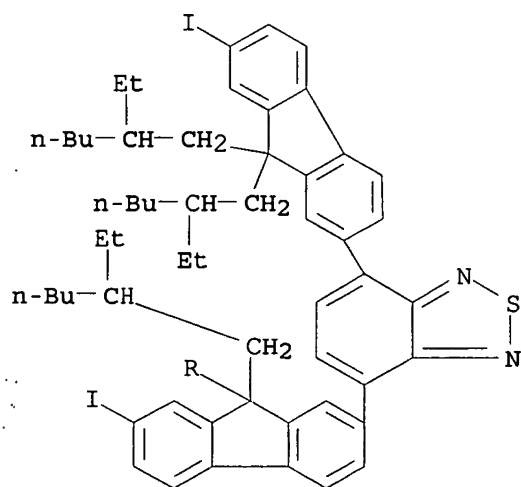


PAGE 2-A

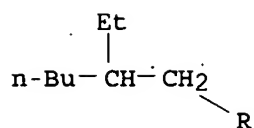


RN 491880-82-1 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[9,9-bis(2-ethylhexyl)-7-iodo-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

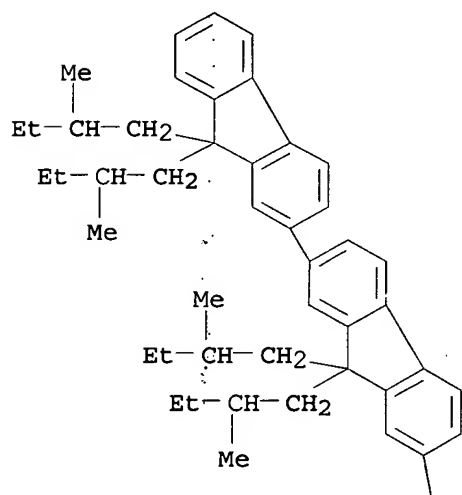


PAGE 2-A

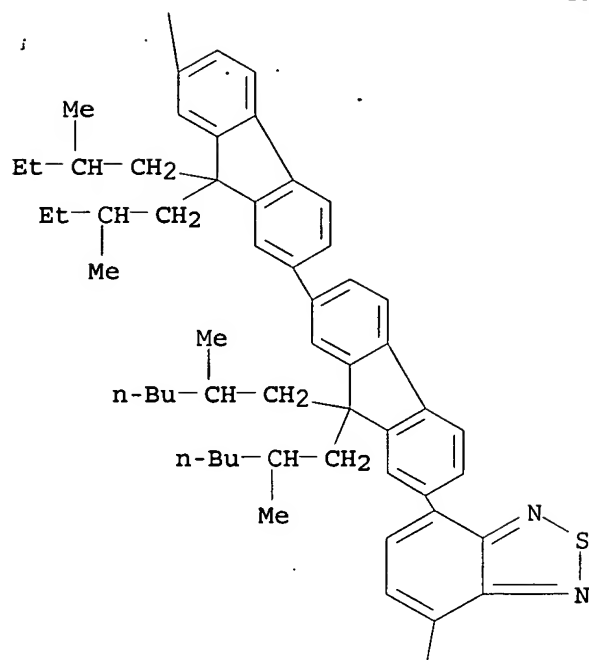


RN 491880-95-6 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[9',9'',9''',9'''',9''''',9'''''-hexakis(2-methylbutyl)-9,9-bis(2-methylhexyl)[2,2':7',2'':7'',2''':7''',2''''-quater-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

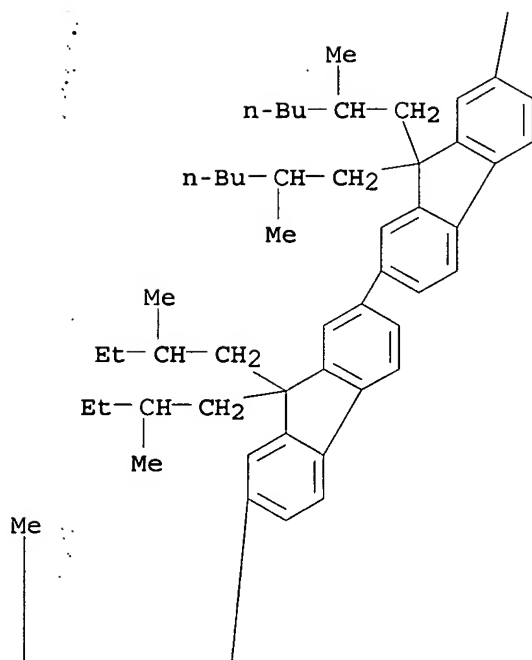
PAGE 1-A



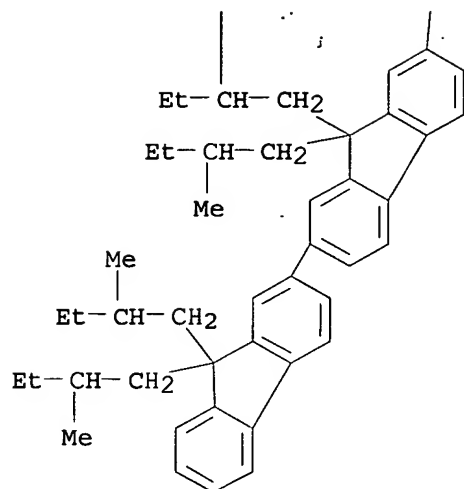
PAGE 2-A



PAGE 3-A



PAGE 4-A



IC ICM C08G
 CC 35-2 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 26, 37, 73
 IT 23421-54-7P 32317-14-9P 294661-40-8P 400607-32-1P
 401941-41-1P 401941-42-2P 401941-43-3P 401941-44-4P
 401941-45-5P 401941-46-6P 401941-47-7P 401941-48-8P
 401941-49-9P 402790-30-1P 409093-91-0P 409093-92-1P
 409093-93-2P 409093-94-3P 409093-95-4P 409093-96-5P
 409093-97-6P 409093-98-7P 409093-99-8P 409335-07-5P
 409335-08-6P 446878-93-9P 446878-94-0P 446878-95-1P
 446878-97-3P 446878-98-4P 446878-99-5P 446879-00-1P
 446879-02-3P 446879-12-5P 452913-92-7P 491880-57-0P
 491880-58-1P 491880-60-5P 491880-61-6P 491880-62-7P
 491880-63-8P 491880-64-9P 491880-65-0P 491880-66-1P
 491880-67-2P 491880-68-3P 491880-69-4P 491880-70-7P
 491880-71-8P 491880-72-9P 491880-73-0P 491880-74-1P
 491880-75-2P 491880-76-3P 491880-77-4P 491880-78-5P
 491880-79-6P 491880-80-9P **491880-81-0P**
491880-82-1P 491880-83-2P 491880-84-3P 491880-85-4P
 491880-86-5P 491880-87-6P 491880-88-7P 491880-89-8P
 491880-90-1P 491880-91-2P 491880-92-3P 491880-93-4P
491880-94-5P 491880-95-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (light-emitting org. oligomer compns.)

L67 ANSWER 15 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:58402 HCAPLUS

DOCUMENT NUMBER: 138:122987

TITLE: Production of emissive block-containing block
 copolymers for electroluminescent devices

INVENTOR(S): Wu, Weishi; Inbasekaran, Michael; Bernius, Mark
 T.; O'Brien, James J.

PATENT ASSIGNEE(S): The Dow Chemical Company, USA

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

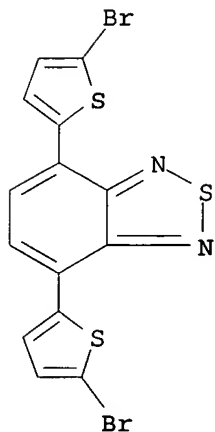
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003007395	A1	20030123	WO 2002-US22308	20020710
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, YU, ZA, ZM, ZW</p> <p>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				
CA 2448514	AA	20030123	CA 2002-2448514	20020710
US 2003045642	A1	20030306	US 2002-193410	20020710
US 6815505	B2	20041109		
EP 1407500	A1	20040414	EP 2002-750024	20020710
TW 593627	B	20040621	TW 2002-91115310	20020710
CN 1599964	A	20050323	CN 2002-813614	20020710
JP 2005515264	T2	20050526	JP 2003-513057	20020710
<p>PRIORITY APPLN. INFO.: US 2001-304336P P 20010710</p> <p>WO 2002-US22308 W 20020710</p>				

AB An org. block copolymer useful in an electroluminescent polymer device comprises (a) an emissive polymer block that is conjugated along the backbone of the emissive polymer block, and at least one of the blocks (b) a pos. charge carrier polymer block that is conjugated along the backbone of the pos. charge carrier polymer

block for transporting pos. charge carriers to the emissive polymer block so that the pos. charge carriers can combine with the neg. charge carriers to generate light, (c) a neg. charge carrier polymer block that is conjugated along the backbone of the neg. charge carrier polymer block for transporting neg. charge carriers to the emissive polymer block so that the neg. charge carriers can combine with the pos. charge carriers to generate light, and (d) a host block that is conjugated along the backbone of the host block for providing a matrix for emitter that affords Forster energy transfer and minimization of quenching effects. Thus, a blue-emitting copolymer having a diblock-type structure was produced in toluene in the presence of tetrakis(triphenylphosphine)palladium and Aliquat 336 phase-transfer agent. The copolymer comprised an emissive block produced by reacting 2,7-dibromo-9,9-dihexylfluorene, 9,10-dibromoanthracene and 9,9-dihexylfluorene-2,7-bisboronate, and a pos. charge carrier block produced by reacting N,N'-bis(4-bromophenyl)-N,N'-bis(3-ethoxycarbonylphenyl)benzidine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-1,4-benzenediamine and 9,9-dihexylfluorene-2,7-bisboronate in the presence of the emissive block.

- IT 288071-87-4DP, block polymers with dialkyl-substituted fluorene derivs. and dibromobenzothiadiazole and bisbromophenyltolylamine
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prodn. of emissive block-contg. block copolymers for electroluminescent devices)
- RN 288071-87-4 HCAPLUS
- CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



- IC ICM H01L051-20
 ICS H01L051-30; H05B033-14; C09K011-06
- CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 73, 76
- IT 86-73-7DP, Fluorene, dialkyl-substituted derivs., block polymers with dibromobenzothiadiazole and bisbromophenyltolylamine and bisbromothierylbenzothiadiazole 15155-41-6DP, 4,7-Dibromo-2,1,3-benzothiadiazole, block polymers with dialkyl-substituted fluorene derivs. and bisbromophenyltolylamine and

bisbromothiénylbenzothiadiazole 100308-67-6DP,
N,N-Bis(p-bromophenyl)-N-(p-tolyl)amine, block polymers with
dialkyl-substituted fluorene derivs. and dibromobenzothiadiazole and
bisbromothiénylbenzothiadiazole 288071-87-4DP, block
polymers with dialkyl-substituted fluorene derivs. and
dibromobenzothiadiazole and bisbromophenyltolylamine
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)

(prodn. of emissive block-contg. block copolymers for
electroluminescent devices)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L67 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:46118 HCAPLUS

DOCUMENT NUMBER: 139:7558

TITLE: New fluorene-based light-emitting copolymers

AUTHOR(S): Cao, Yong; Hou, Qiong; Niu, Yu-hua; Yang,
Ren-qiang; Xu, Yi-she; Luo, Jie; Yang, Wei

CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials
and Devices, South China Univ. of Tech., Canton,
510640, Peop. Rep. China

SOURCE: Huanan Ligong Daxue Xuebao, Ziran Kexueban (2002), 30(11), 1-10

CODEN: HLDKEZ; ISSN: 1000-565X

PUBLISHER: Huanan Ligong Daxue Xuebao Bianji Weiyuanhui

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB A series of novel random copolymers based on 9,9-dioctylfluorene
(DOF) and thiophene or its derivs. (ethylenedioxythiophene (EDT), 4,
7-dithien-2-yl-2, 1, 3-benzo thiadiazole (DBT), 4,
7-dithien-2-yl-2,1, 3-benzoselenadiazole(BTSe)) were synthesized by
the palladium-catalyzed Suzuki coupling method. The successful
color tuning from green (490 .apprx. 560 nm) to red (628 .apprx. 718
nm) was obtained. The PL and EL quantum efficiencies of these
random copolymers are higher than those of alternating copolymers
reported by other researchers. The maximal EL quantum efficiency is
0.45% for copolymer of fluorene and thiophene, 1.8% for copolymer of
fluorene and EDT, 1.4% for copolymer of fluorene and DBT and 0.5%
for copolymers of fluorene and BTSe. This is the highest EL
external efficiency reported so far for the same fluorene-based
copolymers. The efficient energy transfer due to exciton trapping
on the narrow band-gap BTSe or DBT sites has been obsd. The results
indicate that the use of conjugated polyfluorene as wide band-gap
segment with a small amt. of narrow band-gap dopant in the polymer
main chain could provide a new way to combine high quantum
efficiency along with color tuning ability.

IT 534591-71-4

RL: PRP (Properties)
(fluorene-based light-emitting copolymers)

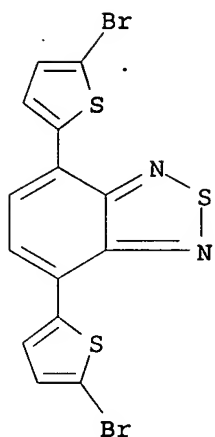
RN 534591-71-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-
dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

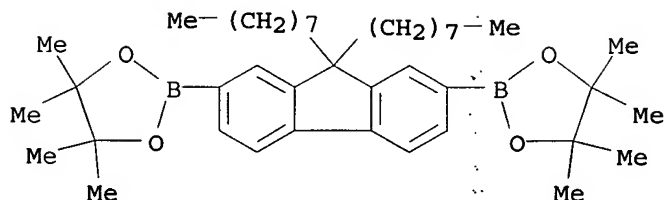
CRN 288071-87-4

CMF C14 H6 Br2 N2 S3



CM 2

CRN 196207-58-6
CMF C41 H64 B2 O4



CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 73
IT 222857-62-7 287924-59-8 534591-71-4 534591-73-6
RL: PRP (Properties)
(fluorene-based light-emitting copolymers)

L67 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:18748 HCAPLUS

DOCUMENT NUMBER: 138:346400

TITLE: Perfluorocyclobutane-based arylamine
hole-transporting materials for organic and
polymer light-emitting diodes

AUTHOR(S): Jiang, Xuezhong; Liu, Sen; Liu, Michelle S.;
Herguth, Petra; Jen, Alex K.-Y.; Fong, Hanson;
Sarıkaya, Mehmet

CORPORATE SOURCE: Department of Materials Science and Engineering,
University of Washington, Seattle, WA, 98195,
USA

SOURCE: Advanced Functional Materials (2002),
12(11-12), 745-751

CODEN: AFMDC6; ISSN: 1616-301X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

LANGUAGE: English

AB A series of in-situ thermally polymerizable hole-transporting materials based on the triarylamine-contg. perfluorocyclobutanes (PFCBs) have been developed and characterized. Electrochem. studies reveal that the energy level of the HOMO for these materials is between -5.1 and -5.3 eV, which is a good match for the work function of indium tin oxide, a commonly used anode for org. and polymeric light-emitting diodes. UV-vis absorption, photo- and electro-luminescence spectral studies indicate that aggregates are formed during the thermal polymn. The PFCB-based materials are very robust after polymn., which enables the fabrication of multilayer polymer light-emitting diodes. Highly efficient org. and polymer LEDs are demonstrated using these materials as the hole-transporting layer, illustrating the superb performance of the PFCB-based polymers.

IT 517914-24-8

RL: DEV (Device component use); USES (Uses)
(emissive layer; electroluminescent device with hole-transporting triarylamine-contg. perfluorocyclobutane-derived polymers)

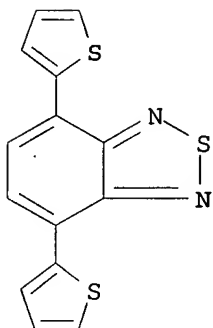
RN 517914-24-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl-, polymer with
9,9-dihexyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 165190-76-1

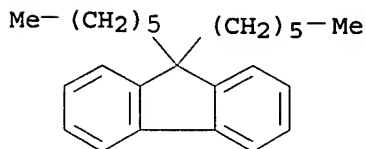
CMF C14 H8 N2 S3



CM 2

CRN 123863-97-8

CMF C25 H34



CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 73

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

IT 517914-24-8

RL: DEV (Device component use); USES (Uses)
(emissive layer; electroluminescent device with hole-transporting
triarylamine-contg. perfluorocyclobutane-derived polymers)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:938560 HCAPLUS

DOCUMENT NUMBER: 138:356083

TITLE: Comparison of electrochemical and spectroscopic
data of the low-bandgap polymer PTPTBAUTHOR(S): Muehlbacher, D.; Neugebauer, H.; Cravino, A.;
Sariciftci, N. S.; van Duren, J. K. J.;
Dhanabalan, A.; van Hal, P. A.; Janssen, R. A.
J.; Hummelen, J. C.CORPORATE SOURCE: Linz Institute For Organic Solar Cells (LIOS),
Johannes Kepler University, Linz, A-4040,
AustriaSOURCE: Molecular Crystals and Liquid Crystals Science
and Technology, Section A: Molecular Crystals
and Liquid Crystals (2002), 385, 85-92
CODEN: MCLCE9; ISSN: 1058-725X

PUBLISHER: Taylor & Francis Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To efficiently harvest the terrestrial solar emission in
photovoltaic devices, the absorption spectrum of the photoactive
material has to match the solar spectrum as well as possible.
Materials which absorb at photon energies where the max. of the
solar emission occurs around 1.8 eV are very important for photon
harvesting. The synthesis of poly-(N-dodecyl-2,5-bis(2'-
thienyl)pyrrole-(2,1,3-benzothiadiazole)) (PTPTB), a low bandgap
polymer, and its use in 'bulk heterojunction' photovoltaic devices
was recently reported. For better understanding of the properties
of this material, spectroelectrochem., optical spectroscopic and
cyclovoltammetric measurements as well as electrochem. voltage
spectroscopy were carried out to det. both the electrochem. and the
optical bandgap. The comparison of the results allows the
prediction of charge carrier formation via light exposure.

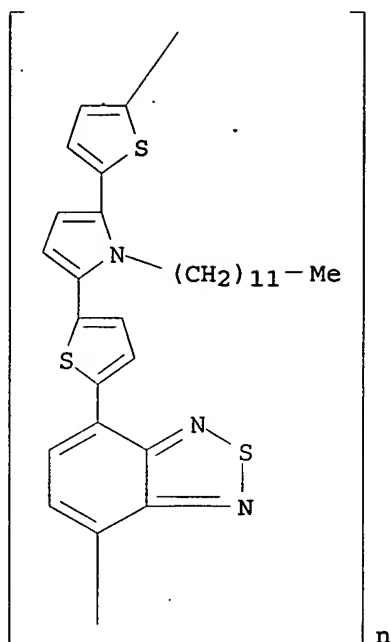
IT 350799-83-6

RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); PROC (Process)

(comparison of electrochem. and spectroscopic data of the
low-bandgap polymer poly-(N-dodecyl-2,5-bis(2'-thienyl)pyrrole-
(2,1,3-benzothiadiazole for solar cells)

RN 350799-83-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl(1-dodecyl-1H-
pyrrole-2,5-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 IT 350799-58-5 350799-83-6
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (comparison of electrochem. and spectroscopic data of the low-bandgap polymer poly-(N-dodecyl-2,5-bis(2'-thienyl)pyrrole-2,1,3-benzothiadiazole for solar cells)
 REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:865257 HCAPLUS
 DOCUMENT NUMBER: 138:178830
 TITLE: A low-bandgap semiconducting polymer for photovoltaic devices and infrared emitting diodes
 AUTHOR(S): Brabec, Christoph J.; Winder, Christoph; Sariciftci, N. Serdar; Hummelen, Jan C.; Dhanabalan, Anantharaman; Van Hal, Paul A.; Janssen, Rene A. J.
 CORPORATE SOURCE: Linz Institute for Organic Solar Cells (LIOS) Physical Chemistry, Johannes Kepler University of Linz, Linz, A-4040, Austria
 SOURCE: Advanced Functional Materials (2002), 12(10), 709-712
 CODEN: AFMDC6; ISSN: 1616-301X
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A novel low-bandgap conjugated polymer (PTPTB, $E_g = \text{apprx. } 1.6 \text{ eV}$), consisting of alternating electron-rich N-dodecyl-2,5-bis(2'-thienyl)pyrrole (TPT) and electron-deficient 2,1,3-benzothiadiazole (B) units, is introduced for thin-film optoelectronic devices

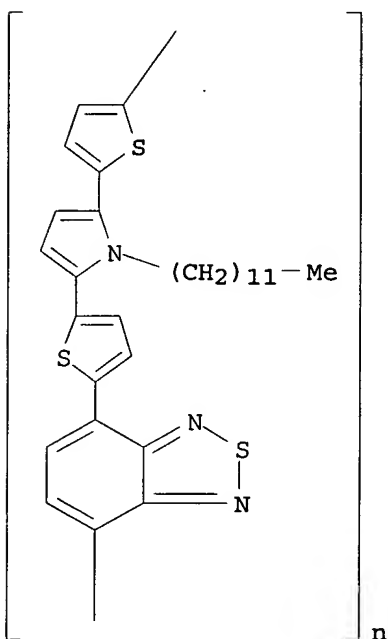
working in the near-IR. Bulk heterojunction photovoltaic cells from solid-state composite films of PTPTB with the sol. fullerene deriv. [6,6]-Ph C61 butyric acid Me ester (PCBM) as an active layer shows promising power conversion efficiencies up to 1% under AM1.5 illumination. Furthermore, electroluminescent devices (light-emitting diodes) from thin films of pristine PTPTB show near IR emission peaking at 800 nm with a turn on voltage below 4 V. The electroluminescence can be significantly enhanced by sensitization of this material with a wide bandgap material such as the poly(p-phenylene vinylene) deriv. MDMO-PPV.

IT 350799-83-6

RL: DEV (Device component use); USES (Uses)
(PTPTB; low-bandgap semiconducting polymer for photovoltaic devices and IR emitting diodes)

RN 350799-83-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl(1-dodecyl-1H-pyrrole-2,5-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



CC 76-5 (Electric Phenomena)

Section cross-reference(s): 52, 73

IT 350799-58-5 350799-83-6

RL: DEV (Device component use); USES (Uses)
(PTPTB; low-bandgap semiconducting polymer for photovoltaic devices and IR emitting diodes)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:821579 HCAPLUS

DOCUMENT NUMBER: 138:255839

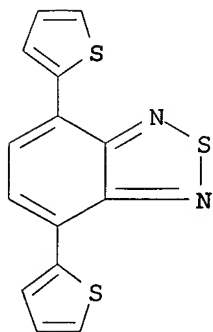
TITLE: Electroluminescence and photoluminescence of
dioctylfluorene and 4,7-dithien-2-yl-2,1,3-
benzothiadiazole copolymers

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

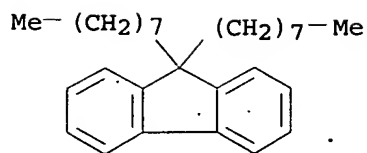
AUTHOR(S): Peng, Junbiao; Xu, Yishe; Hou, Qiong; Niu, Yuhua; Ruan, Wenying; Cao, Yong
CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials & Devices, South China University of Technology, Canton, 510640, Peop. Rep. China
SOURCE: Chinese Science Bulletin (2002), 47(20), 1714-1717
CODEN: CSBUEF; ISSN: 1001-6538
PUBLISHER: Science in China Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Diocetylfluorene (DOF)-4,7-dithien-2-yl-2,1,3-benzothiadiazole (DBT) copolymers with different compns. of DBT (1%, 5%, 15% and 25%) were utilized to fabricate bilayered light emitting diodes. External quantum efficiency (QE) of the diode fabricated from the copolymer with 15% DBT content reaches 1.4% (ph/el), over 1.0 cd/A in luminance efficiency at the driving voltage of 4.2 V. The highest luminance can reach 3780 cd/m² at 8.2 V. Devices emit a satd. red light centered at 675 nm with chromaticity coordinate changed from x = 0.66, yr = 0.32 for PDOF-DBT1 (1% DBT) to x = 0.70, yr = 0.28 for PDOF-DBT25 (25% DBT).
IT 502634-44-8, 4,7-Dithien-2-yl-2,1,3-benzothiadiazole-9,9-dioctylfluorene copolymer
RL: DEV (Device component use); PRP (Properties); USES (Uses) (electroluminescence and photoluminescence of dithienylbenzothiadiazole-dioctylfluorene copolymers)
RN 502634-44-8 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl-, polymer with 9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 165190-76-1
CMF C14 H8 N2 S3

CM 2

CRN 123863-99-0
CMF C29 H42



CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 73

IT 502634-44-8, 4,7-Dithien-2-yl-2,1,3-benzothiadiazole-9,9-dioctylfluorene copolymer

RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electroluminescence and photoluminescence of
dithienylbenzothiadiazole-dioctylfluorene copolymers)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:738184 HCAPLUS

DOCUMENT NUMBER: 138:90368

TITLE: Novel red-emitting fluorene-based copolymers

AUTHOR(S): Hou, Qiong; Xu, Yishe; Yang, Wei; Yuan, Min;
Peng, Junbiao; Cao, Yong

CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials
and Devices, South China University of
Technology, Canton, 510640, Peop. Rep. China

SOURCE: Journal of Materials Chemistry (2002),
12(10), 2887-2892

CODEN: JMACEP; ISSN: 0959-9428

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of novel sol. conjugated copolymers derived from
9,9-dioctylfluorene (DOF) and 4,7-di-2-thienyl-2,1,3-
benzothiadiazole (DBT) were synthesized by a palladium-catalyzed
Suzuki coupling reaction with different feed ratios of DOF to DBT.
Owing to exciton confinement on the DBT site, exciton emission is
centered on the DBT chromophore and gives rise to satd. red
emission. Polyfluorene fluorescence is quenched completely at DBT
concns. as low as 1% in the solid film. Devices based on these
copolymers emit a satd. red light. Chromaticity coordinates are
around $x = 0.70$, $y = 0.30$ for the copolymers. The emission peaks
are shifted from 628 nm to 674 nm when DBT content increases from 1
to 35%. The highest quantum efficiency achieved with device
configuration of ITO/PEDT/PFO-DBT/Ba/Al was 1.4% for the copolymer
with 15% DBT content.

IT 483305-60-8P

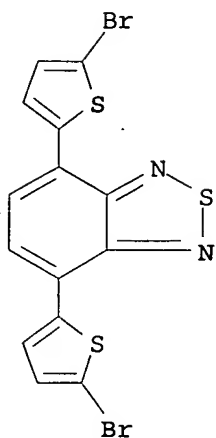
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(red-emitting fluorene-based copolymers)

RN 483305-60-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-
fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)
(CA INDEX NAME)

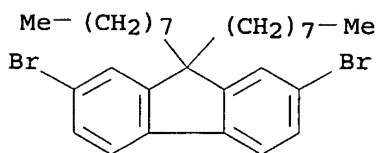
CM 1

CRN 288071-87-4
CMF C14 H6 Br2 N2 S3



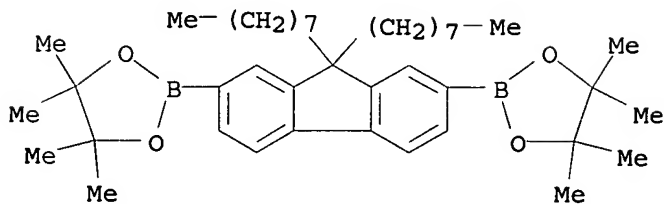
CM 2

CRN 198964-46-4
CMF C29 H40 Br2

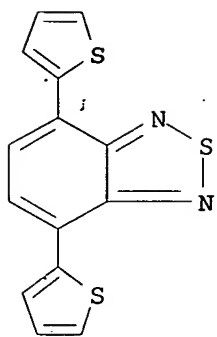


CM 3

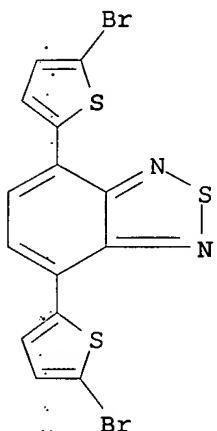
CRN 196207-58-6
CMF C41 H64 B2 O4



IT 165190-76-1P 288071-87-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(red-emitting fluorene-based copolymers)
RN 165190-76-1 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



RN 288071-87-4 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 73
IT 483305-60-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(red-emitting fluorene-based copolymers)
IT 165190-76-1P 196207-58-6P 288071-87-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(red-emitting fluorene-based copolymers)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:734985 HCAPLUS
DOCUMENT NUMBER: 138:39644
TITLE: Novel red electroluminescent polymers derived
from carbazole and 4,7-bis(2-thienyl)-2,1,3-
benzothiadiazole
AUTHOR(S): Huang, Jian; Xu, Yishe; Hou, Qiong; Yang, Wei;
Yuan, Ming; Cao, Yong
CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials

SOURCE: and Devices, South China University of Technology, Canton, 510640, Peop. Rep. China
Macromolecular Rapid Communications (2002), 23(12), 709-712
CODEN: MRCOE3; ISSN: 1022-1336
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of novel carbazole-based sol. copolymers of different compn. was synthesized by Suzuki coupling reaction. Efficient energy transfer from the wide-band-gap segment polycarbazole due to exciton trapping on narrow-band-gap bis(thienyl)benzothiadiazole sites has been obsd. Maximum electroluminescence wavelengths of the copolymers varied between 668 nm and 716 nm, and the external quantum efficiency for copolymer devices is 0.3% for copolymers with 20% benzothiadiazole content.

IT 478706-08-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(Suzuki coupling synthesis and characterization of red electroluminescent polymers derived from carbazole and 4,7-bis(2-thienyl)-2,1,3-benzothiadiazole)

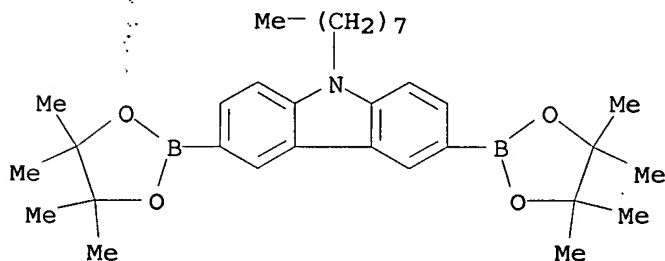
RN 478706-08-0 HCAPLUS

CN 9H-Carbazole, 3,6-dibromo-9-octyl-, polymer with 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole and 9-octyl-3,6-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-carbazole (9CI) (CA INDEX NAME)

CM 1

CRN 478706-06-8

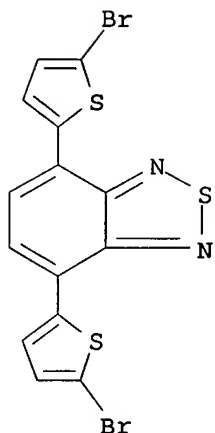
CMF C32 H47 B2 N O4



CM 2

CRN 288071-87-4

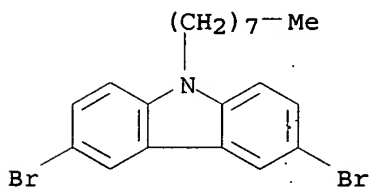
CMF C14 H6 Br2 N2 S3



CM 3

CRN 79554-93-1

CMF C20 H23 Br2 N



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 76

IT 121624-04-2P, Poly(9-octyl-9H-carbazole-3,6-diyl) 478706-07-9P

478706-08-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)(Suzuki coupling synthesis and characterization of red
electroluminescent polymers derived from carbazole and
4,7-bis(2-thienyl)-2,1,3-benzothiadiazole)REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:575079 HCAPLUS

DOCUMENT NUMBER: 137:140902

TITLE: Monomer for use in preparation of a polymer to
be used in optical devicesINVENTOR(S): Burroughes, Jeremy; Towns, Carl; Pounds, Thomas;
Halls, Jonathan

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002059121	A1	20020801	WO 2002-GB294	20020123

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1366046	A1	20031203	EP 2002-710106	20020123
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2004534863 T2 20041118 JP 2002-559423

				20020123
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US 2004115473	A1	20040617	US 2003-470049	20031110
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PRIORITY APPLN. INFO.:

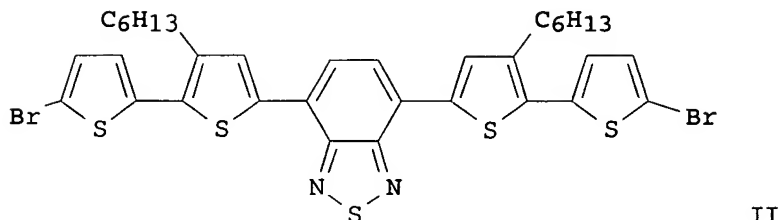
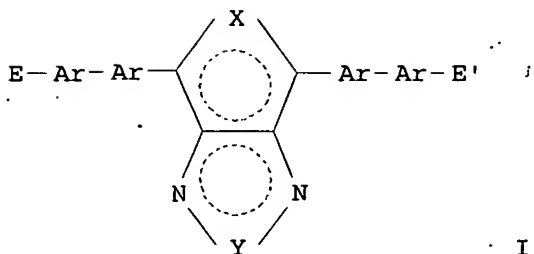
GB 2001-1824	A	20010124
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GB 2001-14538	A	20010614
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US 2001-310588P	P	20010807
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WO 2002-GB294	W	20020123
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GI



AB The title monomer comprises I which may be substituted or unsubstituted: where E and E are the same or different and are reactive groups capable of undergoing chain extension; X is O, S, NR5, R5C-CR6 or R5C=CR6; Y is O, S, NR7, R7C-CR8 or R7C=CR8; R5, R6 R7 and R8 are the same or different and each is independently H or a substituent group; and each Ar is the same or different and is independently a substituted or unsubstituted aryl or heteroaryl group. II was prepd. and polymd. with 9,9-di-n-octylfluorene-2,7-diethyleneboronate to give a polymer useful in electroluminescent devices.

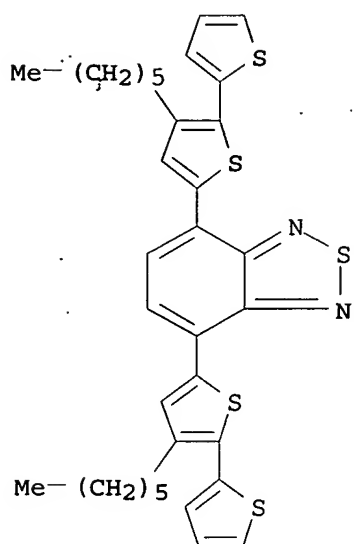
IT 444579-40-2P 444579-41-3P 444579-43-5P
444579-44-6P 444579-45-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)

(monomer for use in prepn. of a polymer to be used in optical devices)

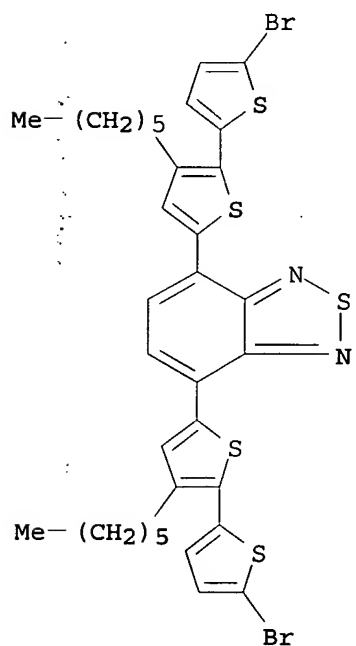
RN 444579-40-2 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(3-hexyl[2,2'-bithiophen]-5-yl)-
(9CI) (CA INDEX NAME)



RN 444579-41-3 HCAPLUS

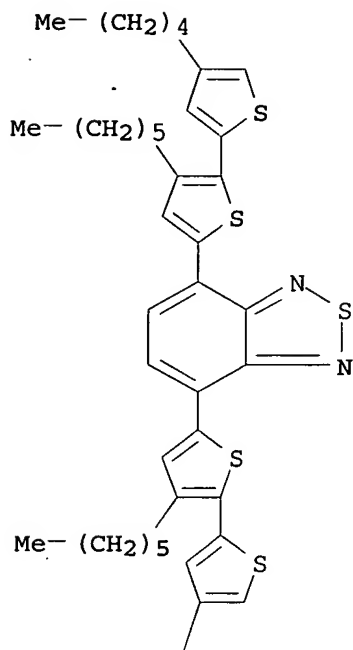
CN 2,1,3-Benzothiadiazole, 4,7-bis(5'-bromo-3-hexyl[2,2'-bithiophen]-5-yl)-(9CI) (CA INDEX NAME)



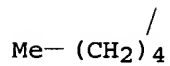
RN 444579-43-5 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(3-hexyl-4'-pentyl[2,2'-bithiophen]-5-yl)-(9CI) (CA INDEX NAME)

PAGE 1-A

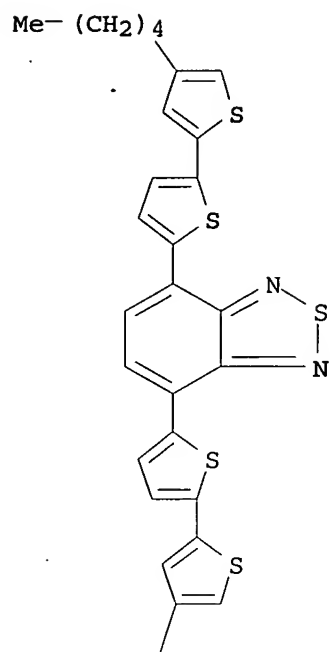


PAGE 2-A

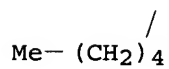


RN 444579-44-6 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(4'-pentyl[2,2'-bithiophen]-5-yl)-
(9CI) (CA INDEX NAME)

PAGE 1-A

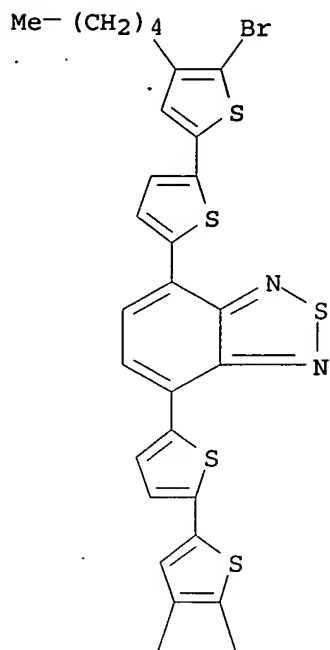


PAGE 2-A

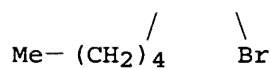


RN 444579-45-7 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5'-bromo-4'-pentyl[2,2'-bithiophen]-
5-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 444579-46-8P 444579-47-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(monomer for use in prepn. of a polymer to be used in optical devices)

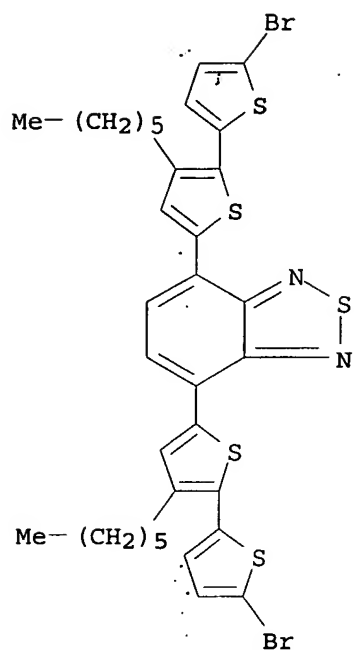
RN 444579-46-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5'-bromo-3-hexyl[2,2'-bithiophen]-5-yl)-, polymer with 9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 444579-41-3

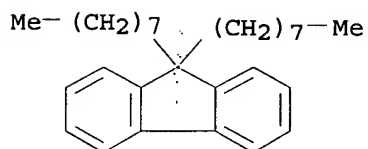
CMF C34 H34 Br2 N2 S5



CM 2

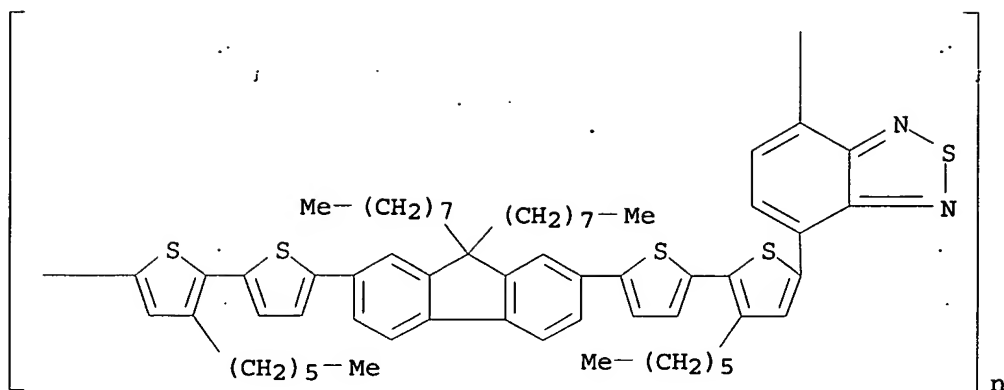
CRN 123863-99-0

CMF C29 H42



RN 444579-47-9 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(3-hexyl[2,2'-bithiophene]-5,5'-diyl)(9,9-dioctyl-9H-fluorene-2,7-diyl)(3'-hexyl[2,2'-bithiophene]-5,5'-diyl)] (9CI) (CA INDEX NAME)



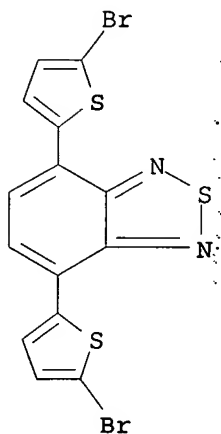
IT 288071-87-4 444579-39-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer for use in prepn. of a polymer to be used in optical devices)

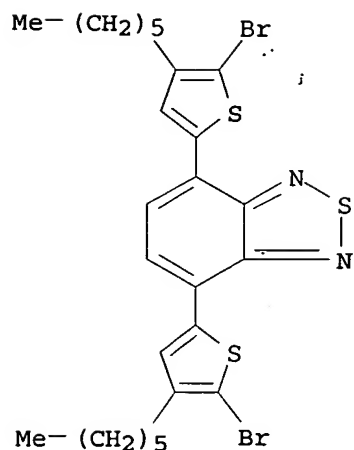
RN 288071-87-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



RN 444579-39-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-hexyl-2-thienyl)- (9CI)
(CA INDEX NAME)



IC ICM C07D417-14
ICS C08G061-10; C09K011-06; H01L051-20
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73
IT 444579-40-2P 444579-41-3P 444579-43-5P
444579-44-6P 444579-45-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(monomer for use in prepn. of a polymer to be used in optical
devices).
IT 444579-46-8P 444579-47-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(monomer for use in prepn. of a polymer to be used in optical
devices).
IT 54663-78-4, 2-(Tributylstannyl)thiophene 288071-87-4
444579-39-9 444579-42-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer for use in prepn. of a polymer to be used in optical
devices).
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L67 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:169578 HCAPLUS
DOCUMENT NUMBER: 136:207522
TITLE: Fluoranthene compounds, and organic
electroluminescent device employing same
compounds
INVENTOR(S): Hosokawa, Chishio; Iwakuma, Toshihiro
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002069044

A2

20020308

JP 2000-255141

200008
25

PRIORITY APPLN. INFO.:

JP 2000-255141

200008
25

OTHER SOURCE(S): MARPAT 136:207522

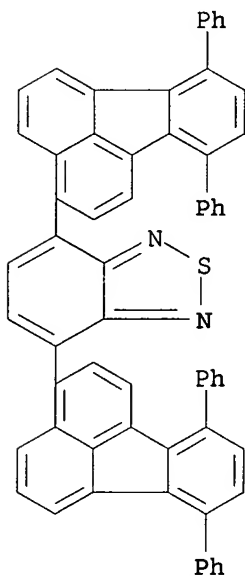
AB Title fluoranthene compd. Xn-Ar [Ar = (substituted) C6-40 arom. ring, C6-40 arylamino, C6-60 diaminoaryl, C6-60 triaminoaryl, C3-40 heterocycle, or (substituted) ethenylene; X = monovalent fluoranthene compd.; n = 2-4] is claimed. Also claimed is an org. electroluminescent device contg. the fluoranthene compd. in (multilayered) org. compd. film. The device shows high heat resistance and provides high emission efficiency.

IT 401813-24-9P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(fluoranthene compds., and org. electroluminescent device contg. same compds.)

RN 401813-24-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(7,10-diphenyl-3-fluoranthenyl)-
(9CI) (CA INDEX NAME)



IC ICM C07C211-61

ICS C07C013-62; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

IT 361445-86-5P 401813-22-7P 401813-23-8P 401813-24-9P

401813-25-0P 401813-26-1P 401813-27-2P 401813-28-3P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(fluoranthene compds., and org. electroluminescent device contg.)

same compds.)

L67 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:81780 HCAPLUS

DOCUMENT NUMBER: 137:49605

TITLE: Sensitization of low bandgap polymer bulk heterojunction solar cells

AUTHOR(S): Winder, C.; Matt, G.; Hummelen, J. C.; Janssen, R. A. J.; Sariciftci, N. S.; Brabec, C. J.

CORPORATE SOURCE: Linz Institute for Organic Solar Cells (LIOS), Physical Chemistry, Johannes Kepler University of Linz, Linz, A-4040, Austria

SOURCE: Thin Solid Films (2002), 403-404, 373-379

CODEN: THSFAP; ISSN: 0040-6090

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB For efficiently harvesting the terrestrial solar spectrum in conjugated polymer based solar cells, low bandgap polymers with a bandgap <1.8 eV are needed. The photophysics of such low band gap conjugated polymers as well as their excited state interactions with electron acceptors such as fullerenes are of importance when using them in photovoltaic devices. In this work we present a device structural study on the sol. low bandgap polymer PTPB, consisting of alternating electron-rich N-dodecyl-2,5-bis (2'-thienyl)pyrrole and electron-deficient 2,1,3-benzothiadiazole (B) units. The bandgap of this polymer, detd. by electrochem. and by optical absorption, is 1.6 eV. The performance of the photovoltaic devices is discussed in terms of spectrally resolved photocurrent measurements, AM1.5 measurements and temp. dependent I-V spectroscopy. Strategies to utilize this polymer for bulk heterojunction tandem solar cells with either a wide band gap polymer or in conjunction with strongly absorbing small mol. dyes are discussed.

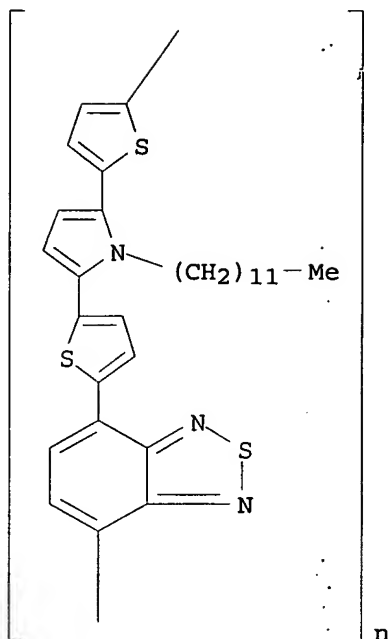
IT 350799-83-6

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(sensitization of low bandgap polymer bulk heterojunction solar cells)

RN 350799-83-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl(1-dodecyl-1H-pyrrole-2,5-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 IT 350799-83-6
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); PROC (Process)
 (sensitization of low bandgap polymer bulk heterojunction solar
 cells)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L67 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2001:507777 HCAPLUS
 DOCUMENT NUMBER: 135:93042
 TITLE: Luminescent polymers containing triarylene
 benzothiadiazole repeating units
 INVENTOR(S): Towns, Carl Robert; O'Dell, Richard
 PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK
 SOURCE: PCT Int. Appl., 27 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001049768	A2	20010712	WO 2001-GB19	20010104

WO 2001049768 A3 20020103

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD,
 TG

WO 2000055927 A1 20000921 WO 2000-GB911

200003
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 ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZW
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,
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EP 1244723 A2 20021002 EP 2001-901239

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 JP 2003519266 T2 20030617 JP 2001-550308

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PRIORITY APPLN. INFO.:

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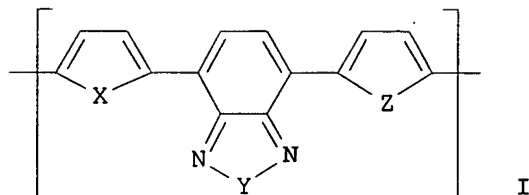
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GI



AB A luminescent polymer comprises a triarylene benzothiadiazole repeating unit. The polymers are useful for electroluminescent devices. I was prepd. from 2-(tributyl-stannyl)thiophene and 4,7-dibromobenzothiadiazole and used in prepn. of an optical polymer.

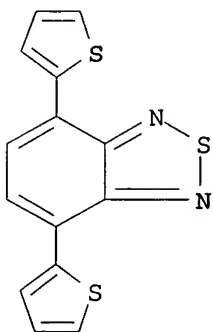
IT 165190-76-1P 288071-87-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(luminescent polymers contg. triarylene benzothiadiazole repeating units)

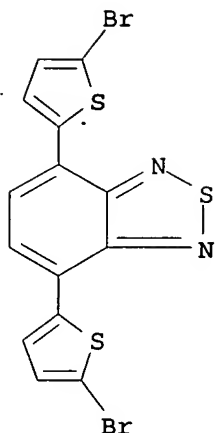
RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



RN 288071-87-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



IC ICM C08G061-00
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73
IT 165190-76-1P 288071-87-4P 349458-45-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(luminescent polymers contg. triarylene benzothiadiazole
repeating units)

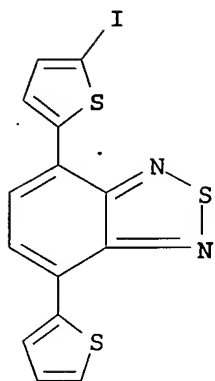
L67 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:361922 HCAPLUS
DOCUMENT NUMBER: 135:122360
TITLE: Synthesis of thiophene-based building blocks via
facile α -monoiodination
AUTHOR(S): Boas, Ulrik; Dhanabalan, Anantharaman; Greve,
Daniel R.; Meijer, E. W.
CORPORATE SOURCE: Laboratory of Macromolecular and Organic
Chemistry, Eindhoven University of Technology,
Eindhoven, 5600 MB, Neth.
SOURCE: Synlett (2001), (5), 634-636
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:122360

AB A new procedure to selectively α -monoiodinate sym.
thiophene-capped segments is described. The monoiodinated derivs.
are further modified, giving access to a variety of thiophene-based
building blocks, which are useful for, e.g., oligomer synthesis via
segmental coupling. E.g., treating 2,2'-bithiophene or
2,2':5'2''-terthiophene with a slight excess of N-iodosuccinimide in
CHCl₃-glacial HOAc gave 60, 76% of the α -monoiodinated
derivs., resp.

IT 351066-53-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(monoiodination of thiophene derivs. with iodosuccinimide)

RN 351066-53-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4-(5-iodo-2-thienyl)-7-(2-thienyl)- (9CI)
(CA INDEX NAME)

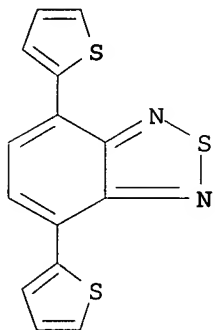


IT 165190-76-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(monoiodination of, with iodosuccinimide in chloroform-acetic acid)

RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiazole; 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



CC 27-8 (Heterocyclic Compounds (One Hetero Atom))

IT 351066-51-8P 351066-53-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(monoiodination of thiophene derivs. with iodosuccinimide)

IT 492-97-7, 2,2'-Bithiophene 1081-34-1, 2,2':5',2''-Terthiophene
23354-94-1 165190-76-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(monoiodination of, with iodosuccinimide in chloroform-acetic acid)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L67 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:356000 HCAPLUS

DOCUMENT NUMBER: 135:172627

TITLE: New synthetic strategies towards conjugated
NLO-phores and fluorophores

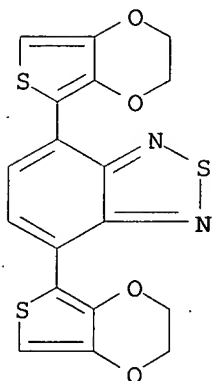
AUTHOR(S): Blanchard, P.; Raimundo, J.-M.; Roncali, J.

CORPORATE SOURCE: Ingenierie Moleculaire et Materiaux Organiques,
2 Boulevard Lavoisier, UMR CNRS 6501, Université
d'Angers, Angers, 49045, Fr.

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

SOURCE: Synthetic Metals (2001), 119(1-3),
527-528
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Thermally stable push-pull chromophores built around thiophene-based π -conjugating spacers rigidified by covalent bridging are described. Rigidification of the spacer produces a huge enhancement of the quadratic nonlinear susceptibility which reaches values among the highest known to date. In addn., introduction of proquinoid acceptors as building blocks for the design of conjugated fluorophores leads to new systems combining tunable emission wavelength at const. geometry, emission quantum yields close to unity, low oxidn. potential and high electron affinity.
IT 240823-06-7
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(new synthetic strategies towards conjugated NLO-phores and fluorophores)
RN 240823-06-7 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(thieno[3,4-b]-1,4-dioxin-5-yl)-(9CI) (CA INDEX NAME)



CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 1081-34-1, α -Terthienenyl 26140-60-3, Terphenyl 174508-34-0
240823-06-7 286380-77-6 302906-85-0 302906-86-1
302906-88-3 302906-89-4 302906-90-7 302906-92-9
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(new synthetic strategies towards conjugated NLO-phores and fluorophores)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:355830 HCAPLUS
DOCUMENT NUMBER: 135:122846
TITLE: Design and synthesis of processible functional copolymers
AUTHOR(S): Dhanabalan, A.; van Hal, P. A.; van Duren, J. K.

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

CORPORATE SOURCE: J.; van Dongen, J. L. J.; Janssen, R. A. J.
Laboratory of Macromolecular and Organic
Chemistry, P.O. Box 513, Eindhoven University of
Technology, Eindhoven, 5600 MB, Neth.

SOURCE: Synthetic Metals (2001), 119(1-3),
169-170
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

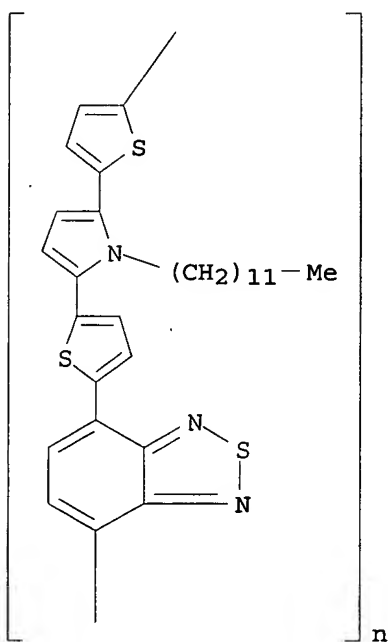
LANGUAGE: English

AB Novel tailor-made AB, ABAC, and ABAA type heteroarom. copolymers, in
which B represents an N-alkylpyrrole unit, were synthesized via
Pd-catalyzed Stille polymn. and characterized by a variety of anal.
techniques. MALDI-TOF mass spectrometry allowed the detailed
characterization of polymer wt. and detn. of end groups. By varying
the nature of the repeating monomer units and their sequence,
copolymers with promising properties for photovoltaic devices could
be obtained.

IT 350799-83-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)
(design and synthesis of processible functional copolymers for
photovoltaic solar cells)

RN 350799-83-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl(1-dodecyl-1H-
pyrrole-2,5-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76

IT 174096-03-8P 341555-39-3P 341555-41-7P 350799-38-1P
350799-41-6P 350799-49-4P 350799-52-9P 350799-58-5P
350799-63-2P 350799-68-7P 350799-74-5P 350799-79-0P
350799-81-4P 350799-83-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic

preparation); PREP (Preparation); USES (Uses)
(design and synthesis of processible functional copolymers for
photovoltaic solar cells)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L67 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:553664 HCAPLUS

DOCUMENT NUMBER: 133:170118

TITLE: Fluorene copolymers and devices made therefrom

INVENTOR(S): Inbasekaran, Michael; Woo, Edmund P.; Wu,
Weishi; Bernius, Mark T.

PATENT ASSIGNEE(S): Dow Chemical Company, USA

SOURCE: PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000046321	A1	20000810	WO 1999-US7876	19990409

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W: CA, CN, JP, KR, SG

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE

CA 2360644	AA	20000810	CA 1999-2360644	19990409
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EP 1155096	A1	20011121	EP 1999-916596	19990409
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EP 1155096	B1	20050309		
R: DE, FR, GB, IT, NL				
US 6353083	B1	20020305	US 1999-289344	19990409

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JP 2002536492	T2	20021029	JP 2000-597384	19990409
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TW 577910	B	20040301	TW 1999-88106303	19990420
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PRIORITY APPLN. INFO.:			US 1999-118799P	P	19990204
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			WO 1999-US7876	W	19990409
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AB Copolymers are described in which $\geq 10\%$ of the monomeric units are fluorene moieties selected from 9-substituted fluorene moieties, 9,9-disubstituted fluorene moieties, or combinations thereof; and $\geq 1\%$ of the monomeric units comprising two other moieties which are different from each other but which both comprise delocalized π -electrons; the other moieties being independently selected from moieties that have hole-transporting properties and moieties that have electron-transporting properties; wherein if both of the other moieties have hole transporting properties, then ≥ 1 of the moieties is derived from stilbenes or 1,4-dienes without electron withdrawing substituents, N,N,N',N'-tetraarylbenzidines, N-substituted-carbazoles, diarylsilanes, and thiophenes/furans/pyrroles without electron-withdrawing substituents. Polymer blends comprising the polymers are also described, as are films formed from the polymers or blends and light-emitting devices and MIS FETs employing the films.

IT 287977-07-5P 287977-10-0P 288073-60-9P

288073-62-1P 288073-63-2P 288073-64-3P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(fluorene deriv. copolymers and devices using them)

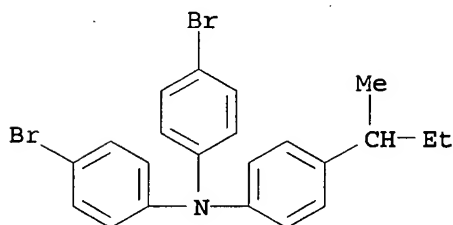
RN 287977-07-5 HCAPLUS

CN Benzenamine, N,N-bis(4-bromophenyl)-4-(1-methylpropyl)-, polymer with 4,7-bis(4-bromophenyl)-2,1,3-benzothiadiazole and 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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CRN 287976-94-7

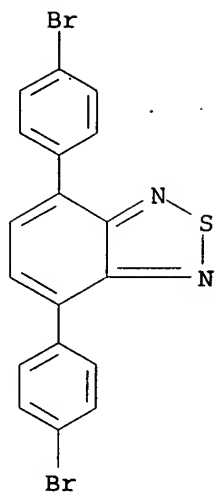
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CM 2

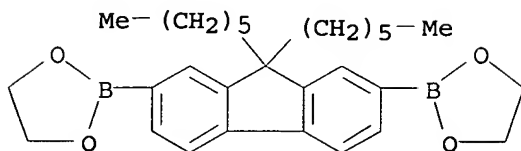
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CMF C18 H10 Br2 N2 S



CM 3

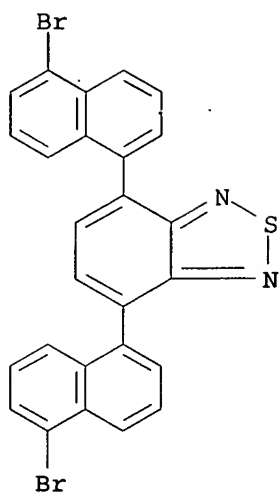
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CMF C29 H40 B2 O4



RN 287977-10-0 HCAPLUS
CN Benzenamine, N,N-bis(4-bromophenyl)-4-(1-methylpropyl)-, polymer
with 4,7-bis(5-bromo-1-naphthalenyl)-2,1,3-benzothiadiazole and
2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane]
(9CI) (CA INDEX NAME)

CM 1

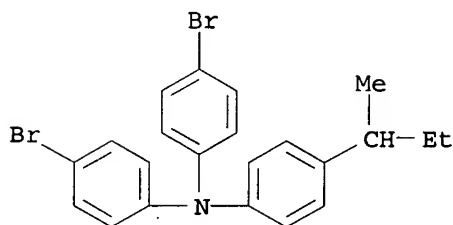
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CMF C26 H14 Br2 N2 S



CM 2

CRN 287976-94-7

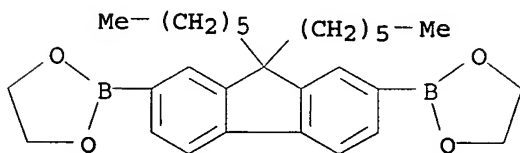
CMF C22 H21 Br2 N



CM 3

CRN 251981-85-8

CMF C29 H40 Br2 O4



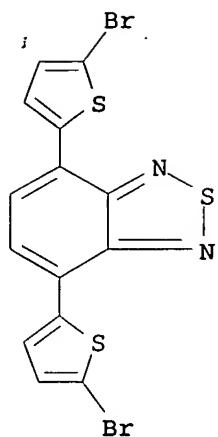
RN 288073-60-9 HCAPLUS

CM 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-(9,9-dioctyl-9H-fluorene-
 2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 288071-87-4

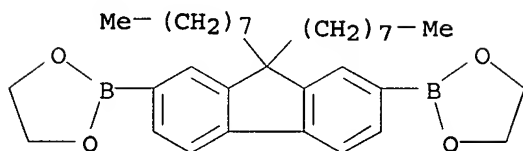
CMF C14 H6 Br2 N2 S3



CM 2

CRN 210347-49-2

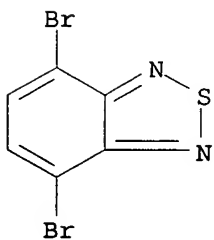
CMF C33 H48 B2 O4



CM 3

CRN 15155-41-6

CMF C6 H2 Br2 N2 S

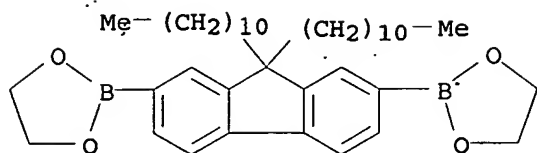


RN 288073-62-1 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with
 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-(9,9-diundecyl-9H-
 fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 288073-61-0

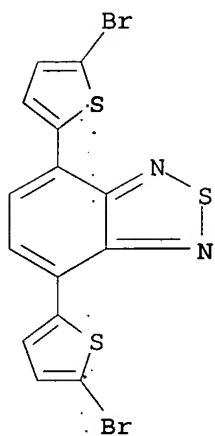
CMF C39 H60 B2 O4



CM 2

CRN 288071-87-4

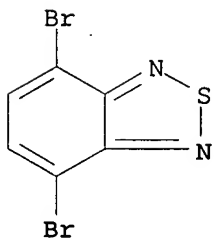
CMF C14 H6 Br2 N2 S3



CM 3

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



RN 288073-63-2 HCAPLUS

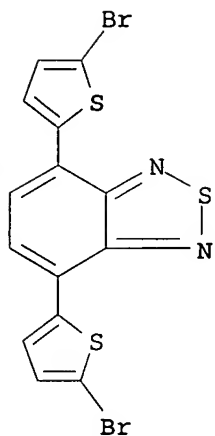
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with 4,7-dibromo-2,1,3-benzothiadiazole, 2,7-dibromo-9,9-dihexyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

MEI HUANG EIC1700 REM4B28 571-272-3952

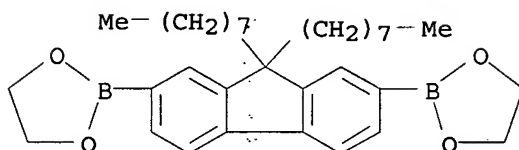
08/14/2006

CRN 288071-87-4
CMF C14 H6 Br2 N2 S3



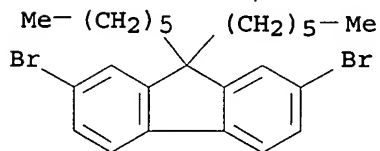
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CRN 210347-49-2
CMF C33 H48 B2 O4



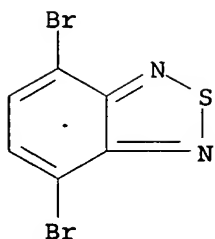
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CRN 189367-54-2
CMF C25 H32 Br2



CM 4

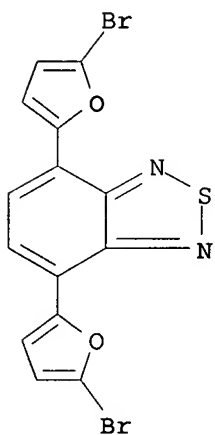
CRN 15155-41-6
CMF C6 H2 Br2 N2 S



RN 288073-64-3 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-furanyl)-, polymer with
 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-(9,9-dioctyl-9H-fluorene-
 2,7-diyl)bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

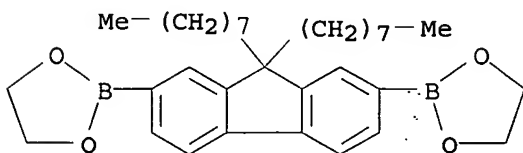
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CRN 288071-88-5
 CMF C14 H6 Br2 N2 O2 S



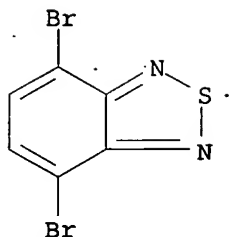
CM 2

CRN 210347-49-2
 CMF C33 H48 B2 O4



CM 3

CRN 15155-41-6
 CMF C6 H2 Br2 N2 S



IT 165190-76-1P 287976-96-9P 287976-97-0P

287976-98-1P

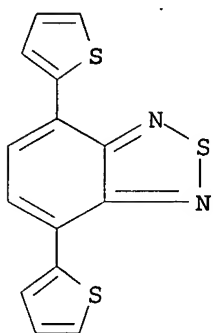
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT (Reactant or reagent)

(fluorene deriv. copolymers and devices using them)

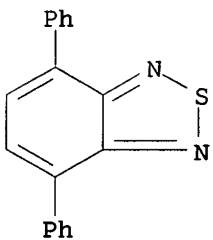
RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



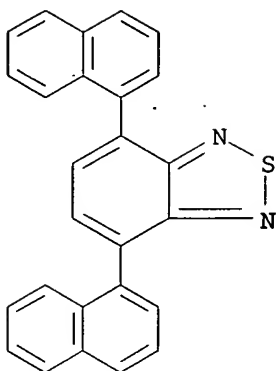
RN 287976-96-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-diphenyl- (9CI) (CA INDEX NAME)

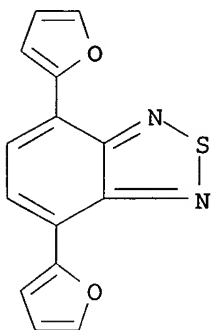


RN 287976-97-0 HCAPLUS

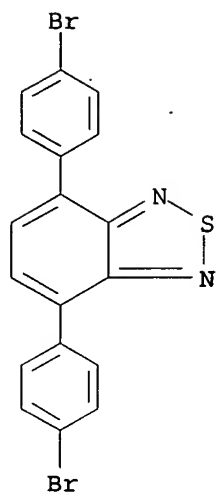
CN 2,1,3-Benzothiadiazole, 4,7-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



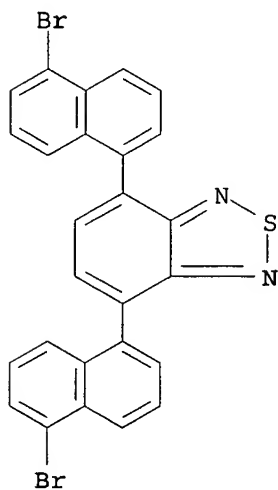
RN 287976-98-1 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-di-2-furanyl- (9CI) (CA INDEX NAME)



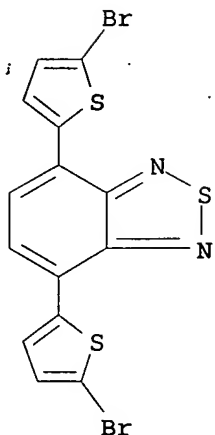
IT 287966-64-7P 287977-09-7P 288071-87-4P
288071-88-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(monomer; fluorene deriv. copolymers and devices using them)
RN 287966-64-7 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



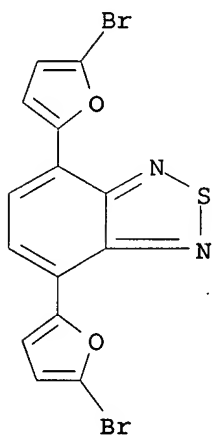
RN 287977-09-7 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-1-naphthalenyl)- (9CI) (CA
INDEX NAME)



RN 288071-87-4 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX
NAME)



RN 288071-88-5 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-furanyl)- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 ICS C08G061-10; H01L051-20
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76
 IT 287976-95-8P 287977-04-2P 287977-05-3P 287977-06-4P
 287977-07-5P 287977-10-0P 288071-93-2P
 288073-50-7P 288073-51-8P 288073-52-9P 288073-53-0P
 288073-54-1P 288073-56-3P 288073-57-4P 288073-58-5P
 288073-59-6P 288073-60-9P 288073-62-1P
 288073-63-2P 288073-64-3P 288073-65-4P
 288073-66-5P 288073-67-6P 288073-68-7P 288073-69-8P
 288073-70-1P 288073-71-2P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (fluorene deriv. copolymers and devices using them)
 IT 58954-05-5P 69272-50-0P 165190-76-1P
 287976-96-9P 287976-97-0P 287976-98-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(fluorene deriv. copolymers and devices using them)

IT 85137-69-5P 94544-77-1P, 5,8-Dibromo-2,3-diphenylquinoxaline

132334-31-7P 271779-47-6P 287966-64-7P

287977-09-7P 288071-85-2P 288071-86-3P

288071-87-4P 288071-88-5P 288071-89-6P

288071-90-9P 288071-91-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT (Reactant or reagent)

(monomer; fluorene deriv. copolymers and devices using them)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L67 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:459296 HCAPLUS

DOCUMENT NUMBER: 131:200530

TITLE: Electrogenenerated poly(thiophenes) with extremely
low bandgap

AUTHOR(S): Akoudad, S.; Roncali, J.

CORPORATE SOURCE: IMMVO. CNRS UMR, Universite d'Angers, Angers,
49045, Fr.

SOURCE: Synthetic Metals (1999), 101(1-3), 149

CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB New low bandgap poly(thiophenes) have been synthesized by
electropolymn. of precursors combining 3,4-ethylenedioxythiophene
with thieno[3,4-b]pyrazine or benzo[1,2-c:4,5-
c']bis[1,2,5]thiadiazole.

IT 240823-07-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(electrogenenerated poly(thiophenes) with extremely low bandgap)

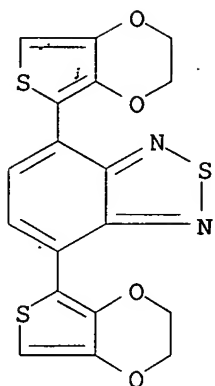
RN 240823-07-8 HCAPLUS

CN 2,1,3-Benzodithiazole, 4,7-bis(thieno[3,4-b]-1,4-dioxin-5-yl)-,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 240823-06-7

CMF C18 H12 N2 O4 S3



CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 73

IT 215717-79-6P 240823-07-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(electrogenerated poly(thiophenes) with extremely low bandgap)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L67 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:97022 HCAPLUS

DOCUMENT NUMBER: 124:260976

TITLE: New synthesis of quinoxaline derivatives based
on palladium catalyzed oligomerization of
1,2-diisocyanoarenes

AUTHOR(S): Ito, Yoshihiko; Kojima, Yutaka; Sugimoto,
Michinori; Murakami, Masahiro

CORPORATE SOURCE: Dep. Synth. Chem. Biol. Chem., Kyoto Univ.,
Kyoto, 606, Japan

SOURCE: Heterocycles (1996), 42(2), 597-615

CODEN: HTCYAM; ISSN: 0385-5414

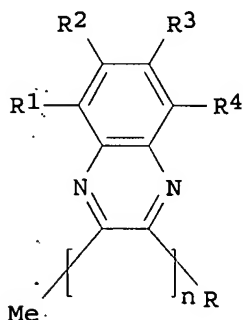
PUBLISHER: Japan Institute of Heterocyclic Chemistry

DOCUMENT TYPE: Journal

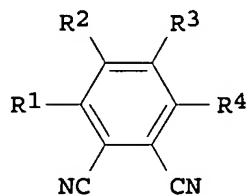
LANGUAGE: English

OTHER SOURCE(S): CASREACT 124:260976

GI



I



II

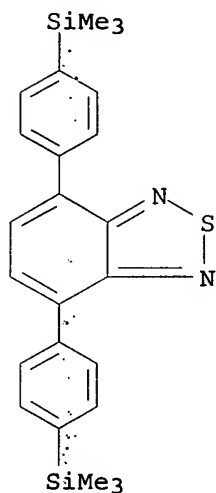
AB Various 2,3-disubstituted quinoxaline derivs., e.g., I (R = Me, Ph, H₂C=CH, HC.tplbond.C, R₁, R₄ = 4-MeC₆H₄, 4-PrC₆H₄, 4-Me₃SiC₆H₄, 4-Me₂NC₆H₄, Me, R₂, R₃ = H, Me, n = 3, 5, 6), were synthesized from monomeric and oligomeric (3-substituted quinoxaline-2-yl)palladium(II) derivs., which were prepd. by the reaction of o-diisocyanoarenes II with trans-bromo(methyl)bis(phosphine)palladium(II).

IT 175085-73-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of quinoxalines by palladium-catalyzed oligomerization of diisocyanoarenes)

RN 175085-73-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis[4-(trimethylsilyl)phenyl]- (9CI)
(CA INDEX NAME)



CC 28-17 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 29

IT 128802-23-3P 175085-45-7P 175085-46-8P 175085-47-9P
175085-48-0P 175085-49-1P 175085-62-8P 175085-63-9P
175085-64-0P 175085-73-1P 175085-74-2P 175085-75-3P
175274-05-2P 175274-06-3P 175274-07-4P 175274-08-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of quinoxalines by palladium-catalyzed oligomerization of diisocyanoarenes)

L67 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1981:84017 HCAPLUS

DOCUMENT NUMBER: 94:84017

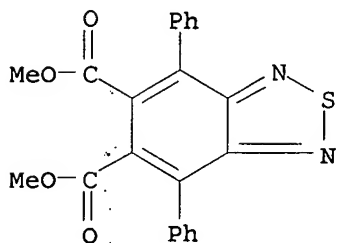
TITLE: Studies on 10 π -electron heterocycles containing tetravalent sulfur. Part 5. Cycloaddition reaction of 4,6-diphenylthieno[3,4-c]-1,2,5-oxadiazole and -1,2,5-thiadiazole with 6,6-diphenylfulvene and tropone

AUTHOR(S): Tsuge, Otohiko; Takata, Toshiaki; Noguchi, Michihiko

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

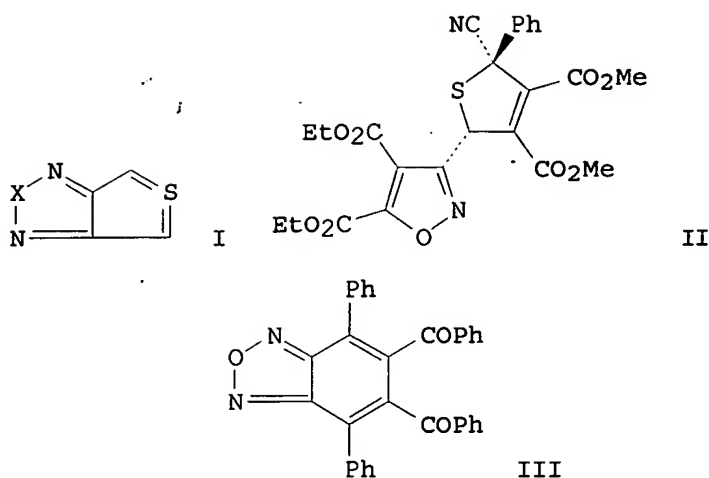
CORPORATE SOURCE: Res. Inst. Ind. Sci., Kyushu Univ., Fukuoka,
812, Japan
SOURCE: Chemistry Letters (1980), (8), 1031-4
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 4,6-Diphenylthieno[3,4-c]-1,2,5-oxadiazole (I) reacts as a
thiocarbonyl ylide with 6,6-diphenylfulvene (II) to give the exo-[4
+ 2] adduct via a stereoselective and regiospecific cycloaddn. The
exo-adduct undergoes thermal cleavage of the oxadiazole ring to
nitrile and nitrile oxide moieties which can be trapped as
1,3-cycloadducts to II and to MeO2C.tplbond.CCO2Me. The reaction
of 4,6-diphenylthieno[3,4-c]-1,2,5-thiadiazole (III) with II affords
a mixt. of analogous exo- and endo-adducts which are subject to a
retro-cycloaddn. reaction. On the other hand, I reacts with tropone
to give the [4 + 6] adduct which is susceptible to a
retro-cycloaddn. reaction. However, III did not react with tropone.
IT 73770-85-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 73770-85-1 HCAPLUS
CN 2,1,3-Benzothiadiazole-5,6-dicarboxylic acid, 4,7-diphenyl-,
dimethyl ester (9CI). (CA INDEX NAME)



CC 28-11 (Heterocyclic Compounds (More Than One Hetero Atom))
IT 73770-70-4P 73770-85-1P 76463-79-1P 76463-80-4P
76463-81-5P 76463-82-6P 76463-83-7P 76497-60-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L67 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:471612 HCAPLUS
DOCUMENT NUMBER: 93:71612
TITLE: Cycloaddition reactions of 4,6-
diphenylthieno[3,4-c][1,2,5]oxadiazole and
-[1,2,5]thiadiazole with acetylenes
AUTHOR(S): Tsuge, Otohiko; Takata, Toshiaki
CORPORATE SOURCE: Res. Inst. Ind. Sci., Kyushu Univ., Fukuoka,
812, Japan
SOURCE: Journal of Organic Chemistry (1980),
45(15), 2956-9
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 93:71612
GI



AB 4,6-Diphenylthieno[3,4-c][1,2,5]oxadiazole I (X = O) with acetylenes to give the corresponding 1:2 adducts, syn-2-cyano-5-(3-isoxazolyl)-2,5-dihydrothiophene derivs., e.g. II, accompanied by benzoxadiazoles e.g. III. The reaction proceeds via initial formation of the cycloadducts of acetylenes across the thiocarbonyl ylide dipole. Subsequent ring cleavage of the oxadiazole ring of initial strained cycloadducts generates the nitrile oxide intermediates capable of undergoing cycloaddn. to acetylenes to afford the 1:2 adducts, whereas desulfurization of the initial cycloadducts leads to the formation of benzoxadiazoles. I (X = S) reacted with acetylenes to give the corresponding desulfurized benzothiadiazoles in good yields.

IT 73770-85-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

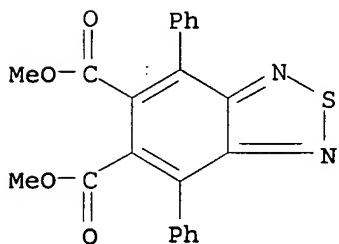
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1 (reagents or reagents,
2 (prepn. and desulfurization of)

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RN 73770-85-1 HCAPLUS

CN 2,1,3-Benzothiadiazole-5,6-dicarboxylic acid, 4,7-diphenyl-,
dimethyl ester (9CI) (CA INDEX NAME)

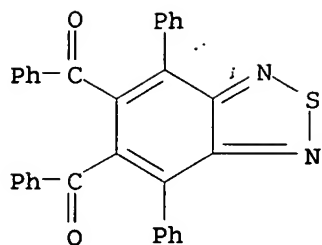


IT 73770-86-2P 73770-87-3P 73770-88-4P
73770-89-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

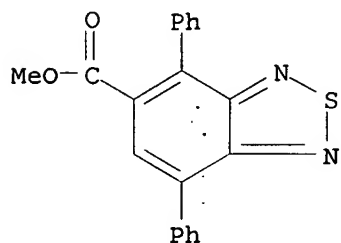
RN 73770-86-2 HCAPLUS

75790-00-2 Methanone, (4,7-diphenyl-2,1,3-benzothiadiazole-5,6-diyl)bis [phenyl-
(9CI) (CA INDEX NAME)



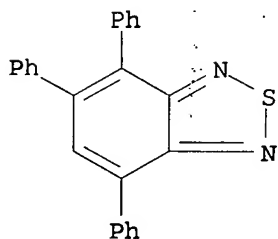
RN 73770-87-3 HCAPLUS

CN 2,1,3-Benzothiadiazole-5-carboxylic acid, 4,7-diphenyl-, methyl ester (9CI) (CA INDEX NAME)



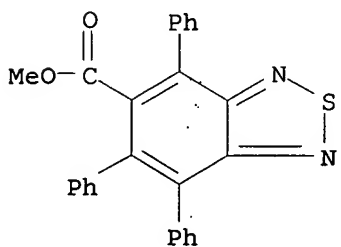
RN 73770-88-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,5,7-triphenyl- (9CI) (CA INDEX NAME)



RN 73770-89-5 HCAPLUS

CN 2,1,3-Benzothiadiazole-5-carboxylic acid, 4,6,7-triphenyl-, methyl ester (9CI) (CA INDEX NAME)



CC 28-6 (Heterocyclic Compounds (More Than One Hetero Atom))

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

=> d his 170-

(FILE 'HCAPLUS' ENTERED AT 14:06:28 ON 14 AUG 2006)
L70 6 S L59 NOT L65

=> d 170 ibib abs hitstr hitind 1-6

L70 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:300495 HCAPLUS

DOCUMENT NUMBER: 142:355757

TITLE: White-emitting copolymers for high quality
polymeric organic light-emitting diodes.

INVENTOR(S): Falcou, Aurelie; Buesing, Arne; Heun, Susanne;
Steiger, Juergen; Gerhard, Anja; Schulte, Niels;
Becker, Heinrich

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030827	A1	20050407	WO 2004-EP10439	200409 17

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG

DE 10343606	A1	20050414	DE 2003-10343606	200309 20
EP 1670844	A1	20060621	EP 2004-765334	200409 17

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK

PRIORITY APPLN. INFO.: DE 2003-10343606 A

200309
20

WO 2004-EP10439 W

200409
17

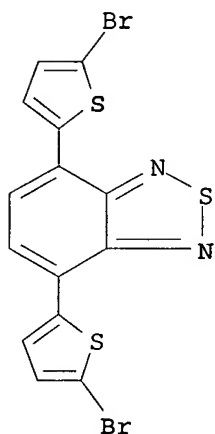
AB White-emitting (fluorescent or phosphorescent) copolymers obtained by combining ≤ 10 mol.% of blue-emitting-, 0.001 - 3 mol.% of green-emitting- and 0.0005 - 1 mol.% of red-emitting repeating units are used for long-term stable (no phase sepn.) high quality polymeric org. light-emitting diodes with high efficiency and low operating voltage. Thus, a white PLED prepd. from a conjugated copolymer (prepd. from 5 different repeating units by Suzuki coupling reaction and having mol. wt. 672) exhibits maximal efficiency 7.89 cd/A and life time 1,100 h.

IT 288071-87-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(repeating unit, red; white-emitting copolymers obtained by combining blue-, green- and red-emitting repeating units for high quality polymeric org. light-emitting diodes with high efficiency and low operating voltage.)

RN 288071-87-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



IC ICM C08G061-00

ICS H01L051-00

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 73

IT 288071-87-4 815601-70-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(repeating unit, red; white-emitting copolymers obtained by combining blue-, green- and red-emitting repeating units for high quality polymeric org. light-emitting diodes with high efficiency and low operating voltage.)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:141138 HCAPLUS

DOCUMENT NUMBER: 142:240861

TITLE: Preparation and use of conjugated copolymers

INVENTOR(S): Becker, Heinrich; Breuning, Esther; Falcou, Aurelie; Parham, Amir

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 33 pp.

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 1 German
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005014688	A2	20050217	WO 2004-EP9018	20040812
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WO 2005014688	A3	20050428		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10337077	A1	20050310	DE 2003-10337077	20030812
EP 1656407	A2	20060517	EP 2004-764022	20040812
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R: DE, FR, GB, NL			DE 2003-10337077	A
PRIORITY APPLN. INFO.:				20030812
<--				
		WO 2004-EP9018	W	20040812
OTHER SOURCE(S): MARPAT 142:240861				
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title polymers, with good durability and efficiency in electroluminescent applications, contain ≥ 1 of the structures: blocks for hole or electron transport; blocks for injection of pos. or neg. charges; emitting blocks; blocks facilitating singlet-to-triplet exciton transition; and/or polymer backbone blocks. Refluxing 0.8 mmol N,N'-bis(4-bromophenyl)-N,N'-bis(4-tert-butylphenyl)-4,4'-biphenyldiamine, 0.72 mmol I, 3.91 g K phosphate hydrate, 0.45 mg Pd(OAc)₂, 3.65 mg tris(2-tolyl)phosphine, and dioxane 25, PhMe 25, and H₂O 6.8 mL for 4 h gave a block [no. and wt.-av. (Mw) mol. wt. 13,700 and

34,4000, resp.] which was refluxed with II 1.2, III 1.2, I 2.04, IV 1.2, and V 0.8 mmol for 5 h, end-capped with 0.1 mL PhBr at reflux for 1 h, refluxed with PhB(OH)₂ for 1 h, and stirred with 0.01% aq. NaCN for 3 h to give 4.66 g block polymer with Mw 200,000 and polydispersity 5.0. Electroluminescence data for the polymers are exemplified.

IT 844701-66-2P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (conjugated; prepn. and use of conjugated block copolymers)

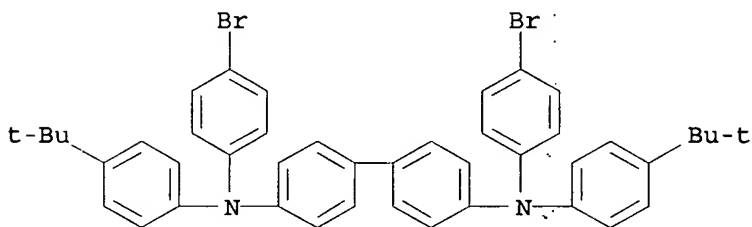
RN 844701-66-2 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(4-bromophenyl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]-, polymer with 4,7-bis(5-bromo-2-thienyl)-2,1,3-benzothiadiazole, 4,7-dibromo-2,1,3-benzothiadiazole and 2,2'-[2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane], block (9CI) (CA INDEX NAME)

CM 1

CRN 463944-36-7

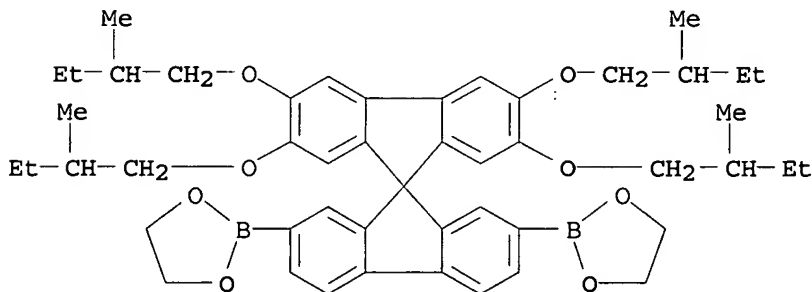
CMF C44 H42 Br2 N2



CM 2

CRN 396123-43-6

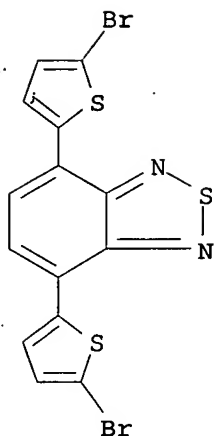
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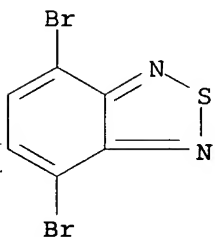
CM 3

CRN 288071-87-4

CMF C14 H6 Br2 N2 S3



CM 4

CRN 15155-41-6
CMF C6 H2 Br2 N2 S

IC ICM C08G061-00
ICS H01L051-30; C09D005-24; H01B001-12
CC 35-4 (Chemistry of Synthetic High Polymers)
IT 844701-59-3P 844701-61-7P 844701-63-9P 844701-64-0P
844701-65-1P 844701-66-2P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
or engineered material use); PREP (Preparation); USES (Uses)
(conjugated; prepn. and use of conjugated block copolymers)

L70 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:20671 HCAPLUS

DOCUMENT NUMBER: 140:94048

TITLE: 2,1,3-benzothiadiazoles for use as electronic
active componentsINVENTOR(S): Stoessel, Philipp; Parham, Amir; Vestweber,
Horst; Spreitzer, Hubert

PATENT ASSIGNEE(S): Covion Organic Semiconductors Gmbh, Germany

SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

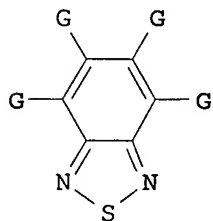
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

*The current
Application*

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004002970	A1	20040108	WO 2003-EP6287	20030614
<--				
W: CN, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
DE 10229370	A1	20040115	DE 2002-10229370	20020629
EP 1519929	A1	20050406	EP 2003-761466	20030614
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1671675	A	20050921	CN 2003-818078	20030614
<--				
JP 2006502981	T2	20060126	JP 2004-516599	20030614
<--				
US 2006052612	A1	20060309	US 2005-519967	20050414
<--				
PRIORITY APPLN. INFO.:			DE 2002-10229370	A 20020629
<--				
			WO 2003-EP6287	W 20030614
<--				
OTHER SOURCE(S):	MARPAT 140:94048			
GI				



AB Comps. are described which do not include macrocycles and which do include ≥ 1 structural unit described by the general formula I (G = H, F, and/or org. residues) having an idealized point group of S_n , C_n , C_{nv} , C_{nh} , D_n , D_{nh} , or D_{nd} ($n=2,3,4,5$, or 6), a mol. wt. in the range 450-5000 g/mol, and a m.p. $>190^\circ$. Use of the comps. in electroluminescent devices (e.g., as active

materials, in electron transport layers, or in hole-blocking layers), as electron transport materials for electrophotog., as electron acceptors or electron transport materials in photovoltaic devices such as org. photodetectors or org. solar cells, as charge transport materials in org. integrated circuits, as charge transport materials or dopants in org. FETs and org. thin-film transistors, and in org. solid-state lasers.

IT 643007-04-9P 643007-05-0P 643007-06-1P

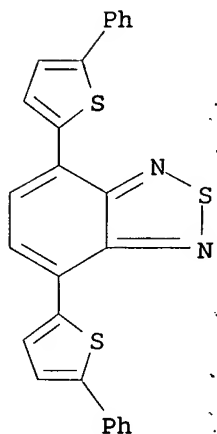
643007-07-2P 643007-08-3P 643007-09-4P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(benzothiadiazole derivs. and their use in electronic devices)

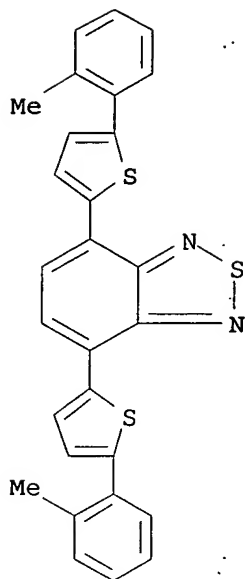
RN 643007-04-9 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-phenyl-2-thienyl)- (9CI) (CA INDEX NAME)

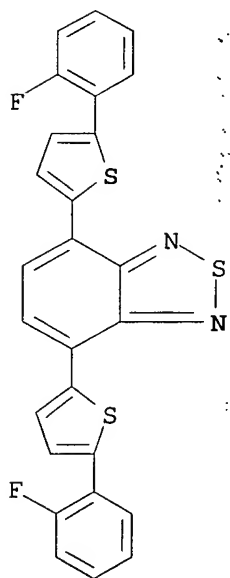


RN 643007-05-0 HCAPLUS

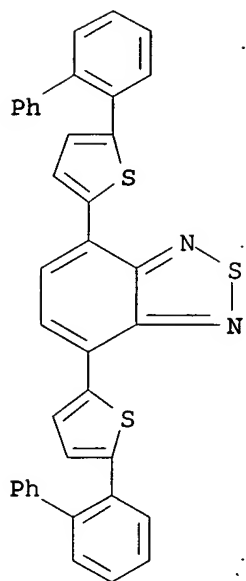
CN 2,1,3-Benzothiadiazole, 4,7-bis[5-(2-methylphenyl)-2-thienyl]- (9CI)
(CA INDEX NAME)



RN 643007-06-1 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[5-(2-fluorophenyl)-2-thienyl]- (9CI)
 (CA INDEX NAME)

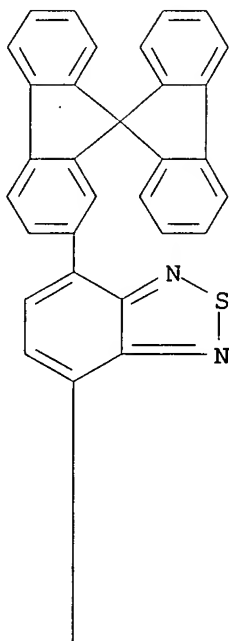


RN 643007-07-2 HCAPLUS
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 (9CI) (CA INDEX NAME)

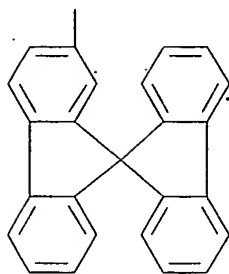


RN 643007-08-3 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(9,9'-spirobi[9H-fluoren]-2-yl)-
(9CI) (CA INDEX NAME)

PAGE 1-A

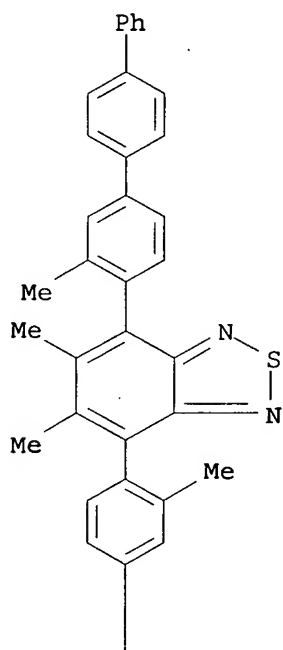


PAGE 2-A

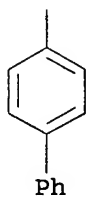


RN 643007-09-4 HCAPLUS
CN 2,1,3-Benzothiadiazole, 5,6-dimethyl-4,7-bis(3-methyl[1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 15155-41-6, 4,7-Dibromo-2,1,3-benzothiadiazole

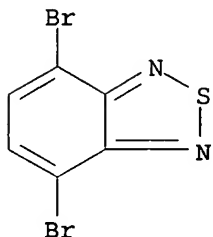
MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

RL: RCT (Reactant); RACT (Reactant or reagent)
(benzothiadiazole derivs. and their use in electronic devices)

RN 15155-41-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

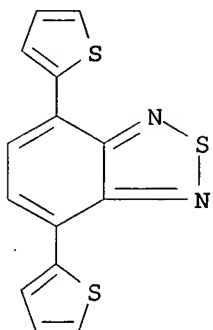


IT 165190-76-1P 288071-87-4P 643007-03-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(benzothiadiazole derivs. and their use in electronic devices)

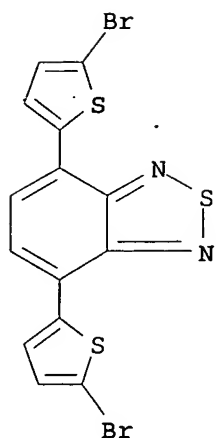
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CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)

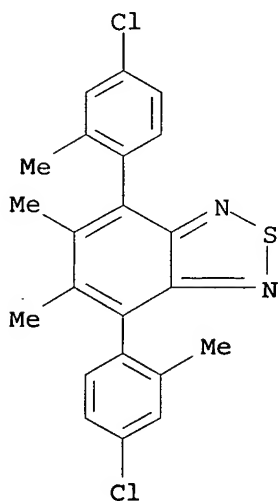


RN 288071-87-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



RN 643007-03-8 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis(4-chloro-2-methylphenyl)-5,6-dimethyl- (9CI) (CA INDEX NAME)



IC ICM C07D285-14
 ICS C07D417-14; C07D513-04; H05B033-14; H01L051-30
 CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 52, 73, 74, 76
 IT 643007-04-9P 643007-05-0P 643007-06-1P
 643007-07-2P 643007-08-3P 643007-09-4P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses):
 (benzothiadiazole derivs. and their use in electronic devices)
 IT 98-80-6, Benzene boronic acid 128-08-5, N-Bromosuccinimide
 1993-03-9 4688-76-0 5122-94-1, Biphenyl-4-boronic acid
 6165-68-0 15155-41-6, 4,7-Dibromo-2,1,3-benzothiadiazole
 16419-60-6 209919-30-2 236389-21-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (benzothiadiazole derivs. and their use in electronic devices)
 IT 165190-76-1P 288071-87-4P 643007-03-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(benzothiadiazole derivs. and their use in electronic devices)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L70 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:508446 HCAPLUS

DOCUMENT NUMBER: 137:233003

TITLE: Synthesis, optical, and electrochemical
properties of novel copolymers on the basis of
benzothiadiazole and electron-rich arene units
AUTHOR(S): Jayakannan, M.; Van Hal, Paul A.; Janssen, Rene
A. J.

CORPORATE SOURCE: Laboratory of Macromolecular and Organic
Chemistry, Eindhoven University of Technology,
Eindhoven, 5600 MB, Neth.

SOURCE: Journal of Polymer Science, Part A: Polymer
Chemistry (2002), 40(14), 2360-2372
CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

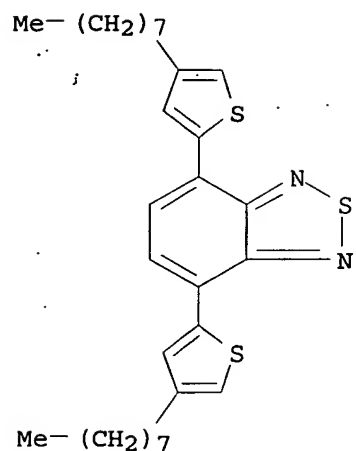
AB Novel alternating conjugated copolymers (P1-P6) consisting of an
electron-deficient benzothiadiazole and a variety of electron-rich
thiophene-arene-thiophene units were synthesized by
palladium-catalyzed polycondensations (Stille and Suzuki reactions),
aiming at processable materials with a reduced optical band gap.
The structures of P1-P6 were confirmed by ¹H NMR and ¹³C NMR, and
their mol. wts. were detd. by size exclusion
chromatog. In the Suzuki polycondensation, the role of the catalyst
[Pd(PPh₃)₄ and Pd(OAc)₂] on the resulting mol. wt
. was investigated. Pd(OAc)₂ enhances the mol. wt
. of the polymers for both thiophene and phenylene bis-boronic
esters as compared with Pd(PPh₃)₄. The optical properties of the
polymers were examd. in soln. and the solid state. The polymers
with n-octyl substituents (P1, P4, P5, and P6) on the thiophene
rings possessed less-planar structures as a result of torsional
steric hindrance, and their absorption spectra appeared blue-shifted
as compared with their unsubstituted analogs (P2 and P3). The
electrochem. properties of the polymers were studied using cyclic
voltammetry. Although the alkyl substitution affects the oxidn.
potential, only marginal differences in the redn. potentials were
obsd.

IT 405165-13-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(in bromination reaction)

RN 405165-13-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(4-octyl-2-thienyl)- (9CI) (CA INDEX
NAME)



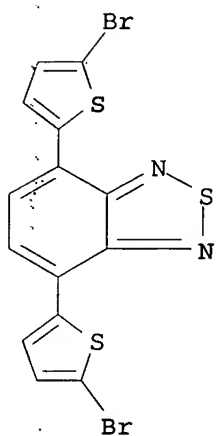
IT 288071-87-4P 457931-23-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(monomer; prepn. of, and in copolymn.)

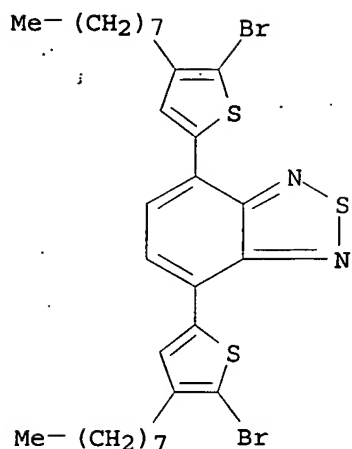
RN 288071-87-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX
 NAME)



RN 457931-23-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-octyl-2-thienyl)- (9CI)
 (CA INDEX NAME)

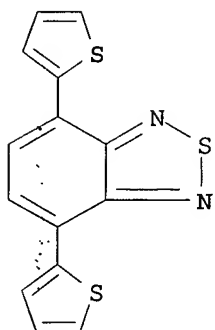


IT 165190-76-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of monomer by bromination of)

RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



IT 457931-27-0P 457931-29-2P 457931-30-5P

457931-31-6P 457931-32-7P 457931-33-8P

457931-35-0P 457931-36-1P 457931-37-2P

457931-38-3P 457931-39-4P 457931-40-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)(synthesis, optical, and electrochem. properties of novel
copolymers based on benzothiadiazole and electron-rich arene
units)

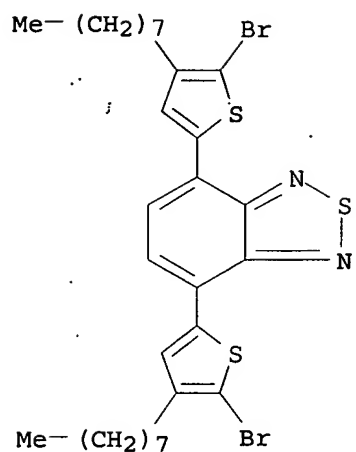
RN 457931-27-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-octyl-2-thienyl)-, polymer
with 1-dodecyl-2,5-bis(trimethylstannyl)-1H-pyrrole (9CI) (CA INDEX
NAME)

CM 1

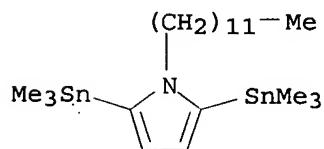
CRN 457931-23-6

CMF C30 H38 Br2 N2 S3

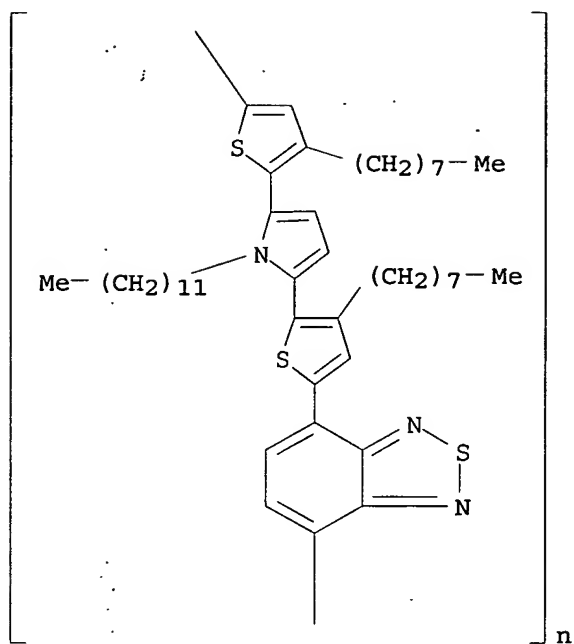


CM 2

CRN 341555-36-0
CMF C22 H45 N Sn2



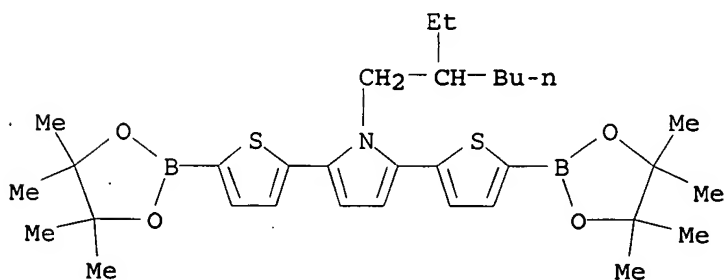
RN 457931-29-2 HCAPLUS
CN Poly[2,1,3-benzothiadiazole-4,7-diyl(4-octyl-2,5-thiophenediyl)(1-dodecyl-1H-pyrrole-2,5-diyl)(3-octyl-2,5-thiophenediyl)] (9CI) (CA INDEX NAME)



RN 457931-30-5 HCAPLUS
 CN 2,1,3-Benzothiadiazaole, 4,7-dibromo-, polymer with
 1-(2-ethylhexyl)-2,5-bis[5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2-thienyl]-1H-pyrrole (9CI) (CA INDEX NAME)

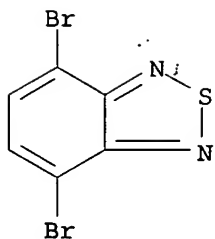
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CRN 457931-25-8
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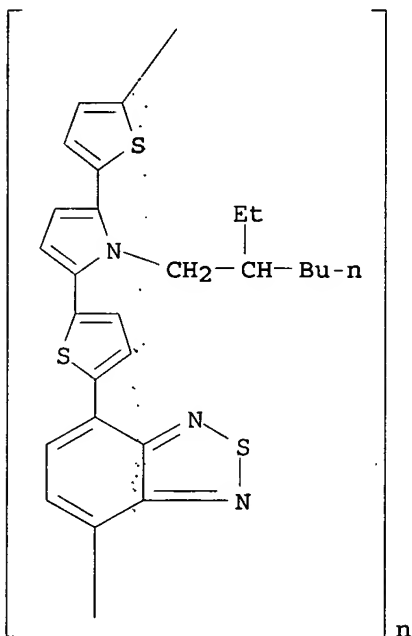
CM 2

CRN 15155-41-6
 CMF C6 H2 Br2 N2 S



RN 457931-31-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl{1-(2-ethylhexyl)-1H-pyrrole-2,5-diyl}-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



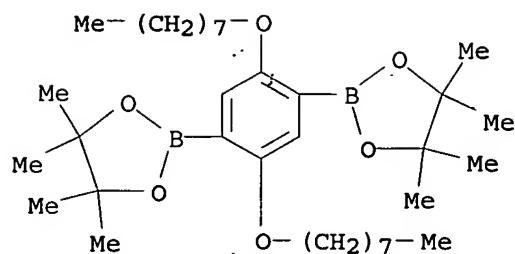
RN 457931-32-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-2-thienyl)-, polymer with 2,2'-[2,5-bis(octyloxy)-1,4-phenylene]bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 457931-26-9

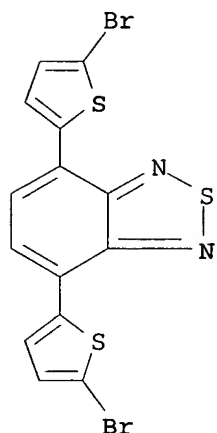
CMF C34 H60 B2 O6



CM 2

CRN 288071-87-4

CMF C14 H6 Br2 N2 S3



RN 457931-33-8 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl[2,5-bis(octyloxy)-1,4-phenylene]-2,5-thiophenediyl] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

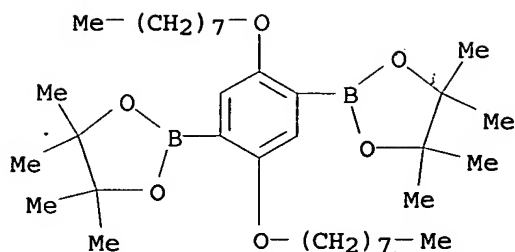
RN 457931-35-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-octyl-2-thienyl)-, polymer with 2,2'-[2,5-bis(octyloxy)-1,4-phenylene]bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 457931-26-9

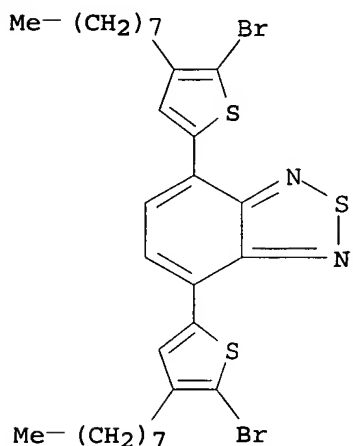
CMF C34 H60 B2 O6



CM 2

CRN 457931-23-6

CMF C30 H38 Br2 N2 S3



RN 457931-36-1 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(4-octyl-2,5-thiophenediyl) [2,5-bis(octyloxy)-1,4-phenylene] (3-octyl-2,5-thiophenediyl)] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

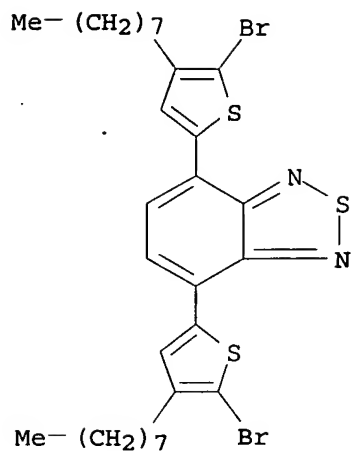
RN 457931-37-2 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-octyl-2-thienyl)-, polymer with 2,2'-(1,4-phenylene)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 457931-23-6

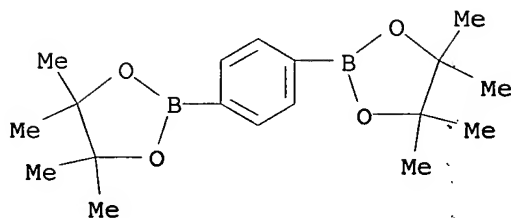
CMF C30 H38 Br2 N2 S3



CM 2

CRN 99770-93-1

CMF C18 H28 B2 O4



RN 457931-38-3 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(4-octyl-2,5-thiophenediyl)-1,4-phenylene(3-octyl-2,5-thiophenediyl)] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

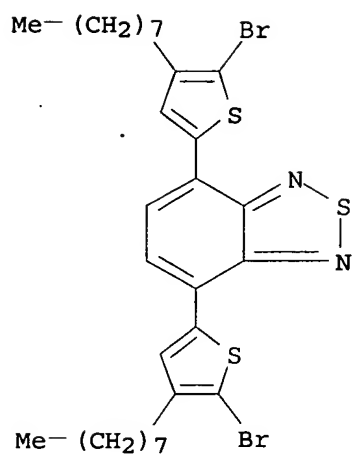
RN 457931-39-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-octyl-2-thienyl)-, polymer with 2,2'-(2,5-thiophenediyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 457931-23-6

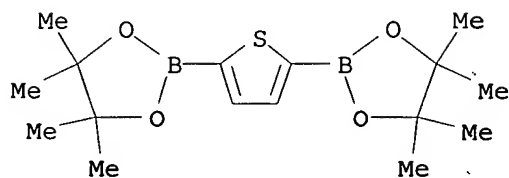
CMF C30 H38 Br2 N2 S3



CM 2

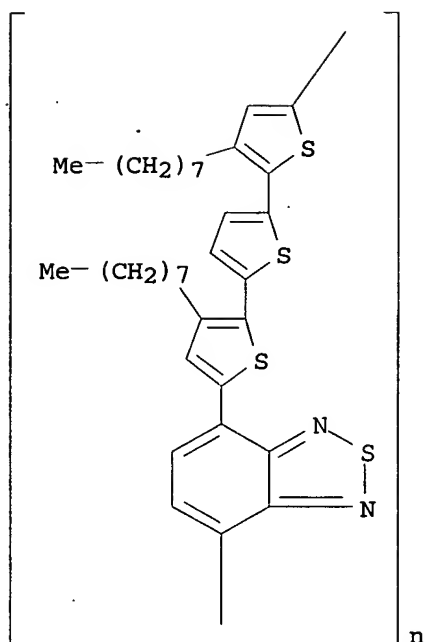
CRN 175361-81-6

CMF C16 H26 B2 O4 S



RN 457931-40-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(3,3''-dioctyl[2,2':5',2''-terthiophene]-5,5''-diyl)] (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 405165-13-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in bromination reaction)
 IT 99770-93-1P 175361-81-6P 288071-87-4P
 457931-23-6P 457931-25-8P 457931-26-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (monomer; prepn. of, and in copolymn.)
 IT 165190-76-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of monomer by bromination of)
 IT 457931-27-0P 457931-29-2P 457931-30-5P
 457931-31-6P 457931-32-7P 457931-33-8P
 457931-35-0P 457931-36-1P 457931-37-2P
 457931-38-3P 457931-39-4P 457931-40-7P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (synthesis, optical, and electrochem. properties of novel
 copolymers based on benzothiadiazole and electron-rich arene
 units)
 REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L70 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:33248 HCAPLUS

DOCUMENT NUMBER: 136:263560

TITLE: Synthesis and structure-property relationship of
 new donor-acceptor-type conjugated monomers and
 polymers on the basis of thiophene and
 benzothiadiazole

AUTHOR(S): Jayakannan, M.; Van Hal, Paul A.; Janssen, Rene
 A. J.

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

CORPORATE SOURCE: Laboratory of Macromolecular and Organic
Chemistry, Eindhoven University of Technology,
Eindhoven, 5600 MB, Neth.
SOURCE: Journal of Polymer Science, Part A: Polymer
Chemistry (2001), Volume Date 2002,
40(2), 251-261
CODEN: JPACEC; ISSN: 0887-624X
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have synthesized three new donor-acceptor-type monomers to
achieve sol. and processable low-band gap polymers,
4,7-bis(4-octyl-2-thienyl)-2,1,3-benzothiadiazole (B4TB),
4,7-bis(3-octyl-2-thienyl)-2,1,3-benzothiadiazole (B3TB), and
4-(3-octyl-2-thienyl)-7-(4-octyl-2-thienyl)-2,1,3-benzothiadiazole
(B34TB), by the Suzuki coupling reaction. Using B4TB and B3TB, two
sol. high mol. wt. regio-regular head-to-head
and tail-to-tail polymers poly[4,7-bis(4-octyl-2-thienyl)-2,1,3-
benzothiadiazole] (PB4TB) and poly[4,7-bis(3-octyl-2-thienyl)-2,1,3-
benzothiadiazole] (PB3TB) were prep'd. via iron(III)
chloride-mediated oxidative polymn. The structures of the polymers
were confirmed by ¹H and ¹³C NMR, and the mol. wts
. were det'd. by size exclusion chromatog. The optical properties
(absorbance and fluorescence) of the monomers and polymers were
studied and compared with unsubstituted analogs. The monomers and
polymers bearing octyl substituents on the thiophene rings pointing
away from the benzothiadiazole units (B4TB and PB4TB) possess a more
planar structure, and their optical spectra appear red-shifted as
compared with those having the octyl chain nearer to the
benzothiadiazole (B3TB and PB3TB). The optical band gaps of PB3BT
(E_g = 2.01 eV) and PB4BT (E_g = 1.96 eV), however, are at much higher
energy levels than that of the unsubstituted electrochem. polymd.
PBTB material (E_g = 1.1-1.2 eV) as a result of steric effects of the
octyl chains. The electrochem. properties of the monomers and
polymers were exam'd. using cyclic voltammetry and reflect the effect
of alkyl substitution. B4TB and PB4TB were oxidized at a lower
potential than B3TB and PB3TB, whereas their redn. potentials were
less neg. The electrochem. band gap calcd. from the onset of the
redn. and oxidn. process agreed with the optical band gap calcd.
from the absorption edges.

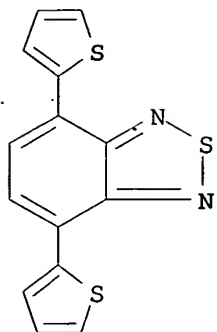
IT 165190-76-1

RL: PRP (Properties)

(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

RN 165190-76-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl- (9CI) (CA INDEX NAME)



IT 405165-13-1P 405165-15-3P 405165-16-4P

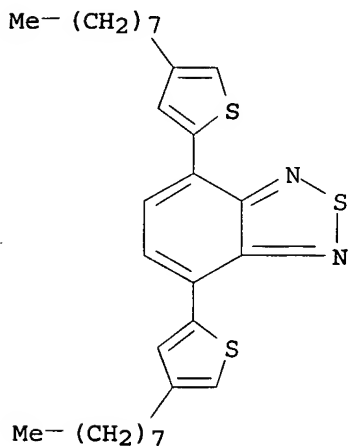
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

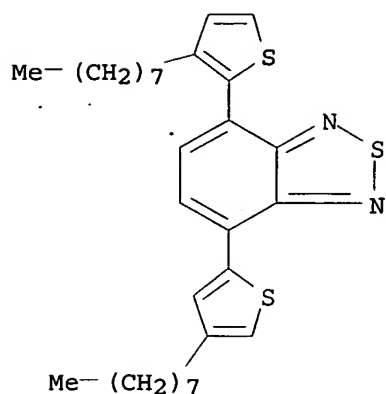
RN 405165-13-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(4-octyl-2-thienyl)- (9CI) (CA INDEX
NAME)

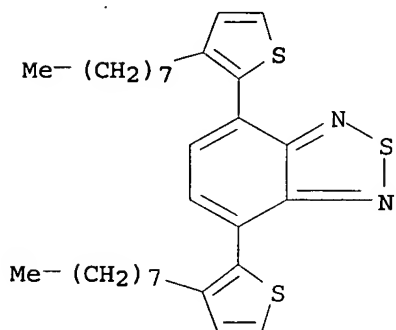


RN 405165-15-3 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4-(3-octyl-2-thienyl)-7-(4-octyl-2-thienyl)-
(9CI) (CA INDEX NAME)



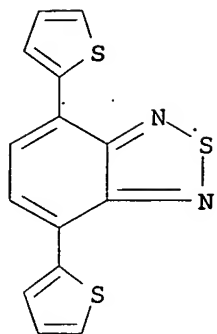
RN 405165-16-4 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis(3-octyl-2-thienyl)- (9CI) (CA INDEX NAME)



IT 165190-78-3P 405165-17-5P 405165-18-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and structure-property relationship of donor-acceptor-type conjugated thiophene and benzothiadiazole monomers and polymers)
 RN 165190-78-3 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-di-2-thienyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

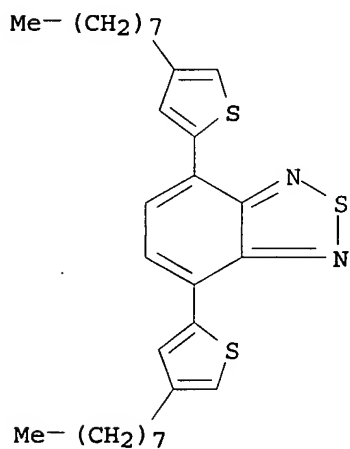
CRN 165190-76-1
 CMF C14 H8 N2 S3



RN 405165-17-5 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(4-octyl-2-thienyl)-, homopolymer
(9CI) (CA INDEX NAME)

CM 1

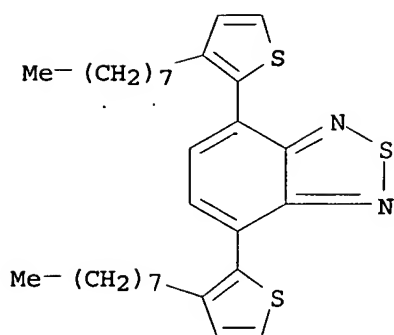
CRN 405165-13-1
CMF C30 H40 N2 S3



RN 405165-18-6 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis(3-octyl-2-thienyl)-, homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 405165-16-4
CMF C30 H40 N2 S3

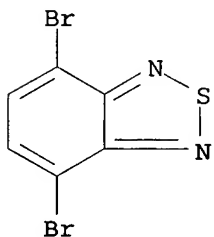


IT 15155-41-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

RN 15155-41-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX
NAME).



CC 35-5 (Chemistry of Synthetic High Polymers)

IT 165190-76-1

RL: PRP (Properties)
(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

IT 405165-13-1P 405165-15-3P 405165-16-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

IT 165190-78-3P 405165-17-5P 405165-18-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

IT 15155-41-6 65016-62-8

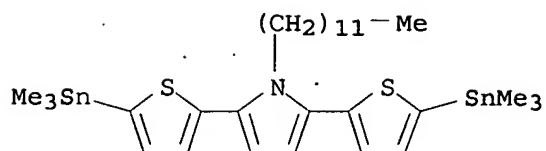
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and structure-property relationship of
donor-acceptor-type conjugated thiophene and benzothiadiazole
monomers and polymers)

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE

FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L70 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:594031 HCAPLUS
DOCUMENT NUMBER: 135:374057
TITLE: Synthesis and characterization of a low bandgap
conjugated polymer for bulk heterojunction
photovoltaic cells
AUTHOR(S): Dhanabalan, Anantharaman; Van Duren, Jeroen K.
J.; Van Hal, Paul A.; Van Dongen, Joost L. J.;
Janssen, Rene A. J.
CORPORATE SOURCE: Laboratory of Macromolecular and Organic
Chemistry, Eindhoven University of Technology,
Eindhoven, NL-5600 MB, Neth.
SOURCE: Advanced Functional Materials (2001),
11(4), 255-262
CODEN: AFMDC6; ISSN: 1616-301X
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Low optical bandgap conjugated polymers may improve the efficiency
of org. photovoltaic devices by increasing the absorption in the
visible and near IR region of the solar spectrum. The condensation
polymn. of 2,5-bis(5-trimethylstannyl-2-thienyl)-N-dodecylpyrrole
and 4,7-dibromo-2,1,3-benzothiadiazole in the presence of
Pd(PPh3)2Cl2 as a catalyst affords a novel conjugated oligomeric
material (PTPTB), which exhibits a low optical bandgap as a result
of the alternation of electron-rich and electron-deficient units
along the chain. By varying the molar ratio of the monomers in the
reaction and fractionation of the reaction product, two different
mol. wt. fractions (PTPTB-I and PTPTB-II, see
Exptl. section) were isolated, contg. 5-17 and 13-33 arom. units
resp., as inferred from matrix-assisted laser desorption ionization
time-of-flight mass spectrometry (MALDI-TOF-MS). Thin films of
PTPTB-I and PTPTB-II exhibit an optical bandgap of 1.60 and 1.46 eV,
resp. Photoinduced absorption and photoluminescence spectroscopy of
blends of PTPTB-I and a methanofullerene (1-(3-methoxycarbonyl)-
propyl-1-phenyl-[6,6]C61, PCBM) gave direct spectral evidence of the
photoinduced electron-transfer reaction from PTPTB-I as a donor to
the fullerene deriv. as an acceptor. Thin PTPTB-I:PCBM composite
films were sandwiched between indium tin oxide/poly(3,4-
ethylenedioxythiophene)/poly(styrene sulfonic acid) (ITO/PEDOT:PSS)
and Al electrodes to prep. working photovoltaic devices, which show
an open circuit voltage of 0.67 V under white-light illumination.
The spectral dependence of the device shows an onset of the
photocurrent at 1.65 eV (750 nm).
IT 350799-58-5 350799-83-6
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PROC (Process)
(synthesis and characterization of low bandgap conjugated polymer
for bulk heterojunction photovoltaic cells)
RN 350799-58-5 HCAPLUS
CN 1H-Pyrrole, 1-dodecyl-2,5-bis[5-(trimethylstannyl)-2-thienyl]-,
polymer with 4,7-dibromo-2,1,3-benzothiadiazole (9CI) (CA INDEX
NAME)
CM 1
CRN 350799-48-3

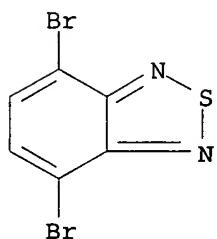
CMF C30 H49 N S2 Sn2



CM 2

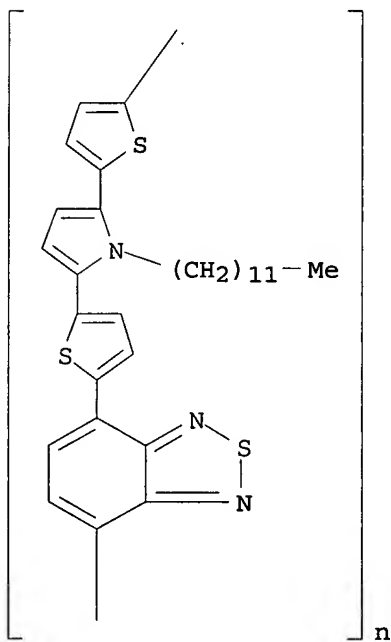
CRN 15155-41-6

CMF C6 H2 Br2 N2 S



RN 350799-83-6 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl-2,5-thiophenediyl(1-dodecyl-1H-pyrrole-2,5-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 160848-22-6, 1-(3-Methoxycarbonyl)-propyl-1-phenyl-[6,6]C61

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

350799-58-5 350799-83-6

RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PROC (Process)

(synthesis and characterization of low bandgap conjugated polymer
for bulk heterojunction photovoltaic cells)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

=>

IT 73770-85-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. and desulfurization of)
IT 73770-71-5P 73770-72-6P 73770-73-7P 73770-74-8P 73770-75-9P
73770-76-0P 73770-77-1P 73770-78-2P 73770-79-3P 73770-80-6P
73770-81-7P 73770-82-8P 73770-83-9P 73770-84-0P
73770-86-2P 73770-87-3P 73770-88-4P
73770-89-5P 73770-90-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

=> d 168 ibib abs hitstr hitind 1-7

L68 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:631721 HCAPLUS

DOCUMENT NUMBER: 141:157109

TITLE: Preparation of dipyridylbenzothiadiazoles and
dipyridylbisbenzothiadiazoles showing high
fluorescence intensity in solid state

INVENTOR(S): Yamashita, Takao

PATENT ASSIGNEE(S): Rikogaku Shinkokai, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

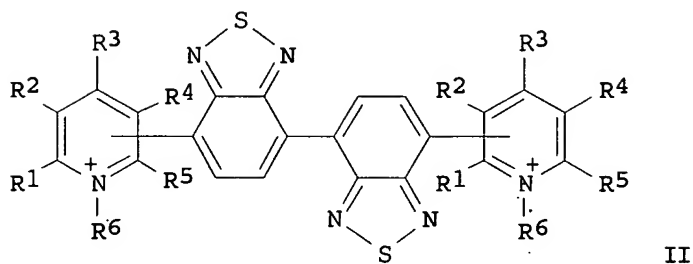
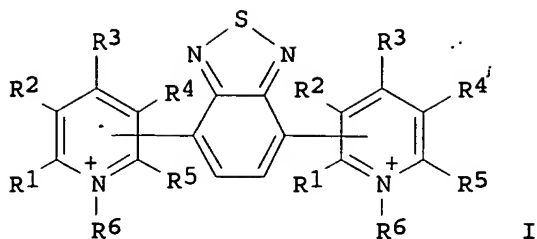
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004217549	A2	20040805	JP 2003-5265	20030114
PRIORITY APPLN. INFO.:				20030114

OTHER SOURCE(S): MARPAT 141:157109

GI



AB The dipyridylbenzothiadiazoles I (R1-R5 = H, alkyl; R6 = H, alkyl, benzyl, SiMe₃; when R6 = H, N atom of pyridine has no charge) are prepd. The dipyridylbisbenzothiadiazoles II (R1-R6 = same as I) are prepd. Thus, 4,7-dibromo-2,1,3-benzothiadiazole was treated with 2-stannyl pyridine to give 81% 4,7-di(2-pyridyl)benzothiadiazole, which showed fluorescence peak at 468 nm.

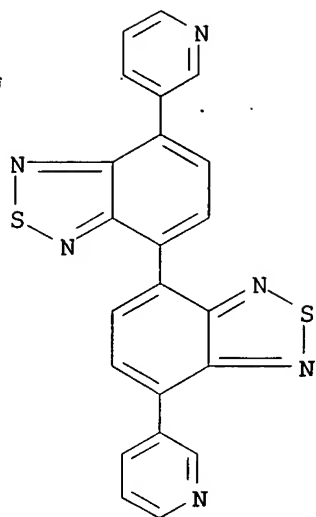
IT 692259-95-3P 692259-96-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

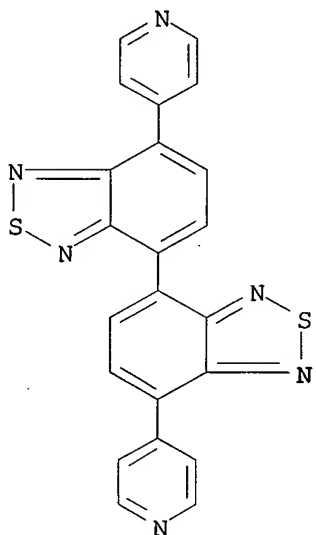
(prepn. of dipyridylbenzothiadiazoles and dipyridylbisbenzothiadiazoles showing high fluorescence intensity in solid state)

RN 692259-95-3 HCAPLUS

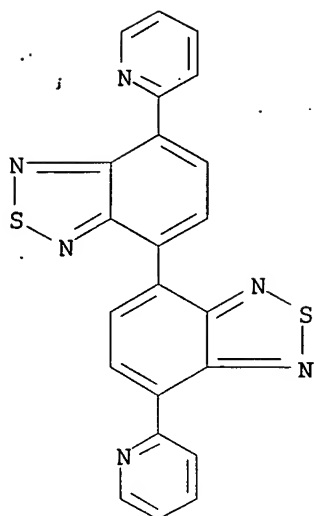
CN 4,4'-Bi-2,1,3-benzothiadiazole, 7,7'-di-3-pyridinyl- (9CI) (CA INDEX NAME)



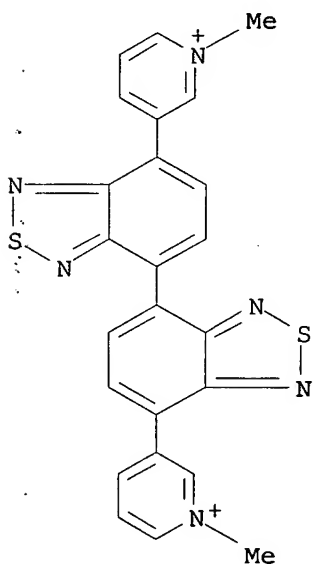
RN 692259-96-4 HCAPLUS
 CN 4,4'-Bi-2,1,3-benzothiadiazole, 7,7'-di-4-pyridinyl- (9CI) (CA
 INDEX NAME)



IT 692259-94-2P 692260-02-9P 692260-04-1P
 727992-43-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of dipyridylbenzothiadiazoles and
 dipyridylbisbenzothiadiazoles showing high fluorescence intensity
 in solid state)
 RN 692259-94-2 HCAPLUS
 CN 4,4'-Bi-2,1,3-benzothiadiazole, 7,7'-di-2-pyridinyl- (9CI) (CA
 INDEX NAME)

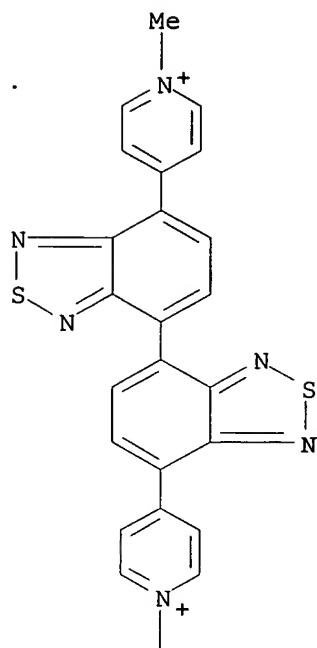


RN 692260-02-9 HCAPLUS
CN Pyridinium, 3,3'-[4,4'-bi-2,1,3-benzothiadiazole]-7,7'-diylbis[1-methyl- (9CI) (CA INDEX NAME)]



RN 692260-04-1 HCAPLUS
CN Pyridinium, 4,4'-[4,4'-bi-2,1,3-benzothiadiazole]-7,7'-diylbis[1-methyl- (9CI) (CA INDEX NAME)]

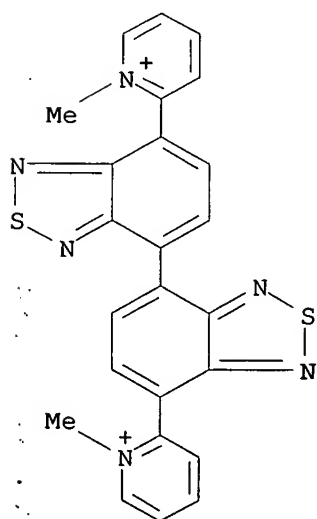
PAGE 1-A



PAGE 2-A



RN 727992-43-0 HCAPLUS
CN Pyridinium, 2,2'-[4,4'-bi-2,1,3-benzothiadiazole]-7,7'-diylbis[1-methyl- (9CI) (CA INDEX NAME)



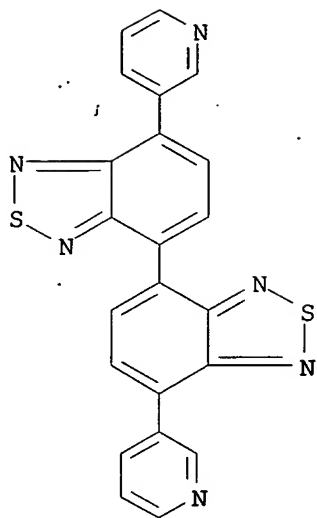
IC ICM C07D417-04
ICS C07D417-14; C09K011-06; H05B033-14; H05B033-22
CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 73
IT 692259-92-0P 692259-93-1P 692259-95-3P
692259-96-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. of dipyridylbenzothiadiazoles and
dipyridylbisbenzothiadiazoles showing high fluorescence intensity
in solid state)
IT 692259-91-9P 692259-94-2P 692259-97-5P 692259-99-7P
692260-02-9P 692260-04-1P 727992-42-9P
727992-43-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of dipyridylbenzothiadiazoles and
dipyridylbisbenzothiadiazoles showing high fluorescence intensity
in solid state)

L68 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN

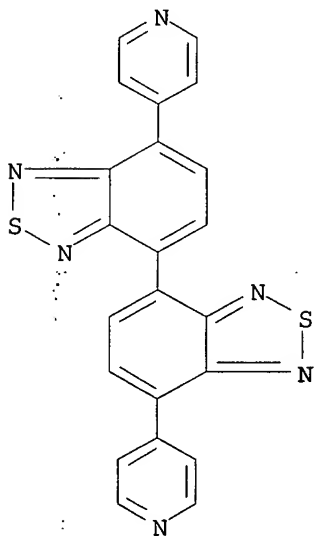
ACCESSION NUMBER: 2004:252953 HCAPLUS
DOCUMENT NUMBER: 140:423627
TITLE: Synthesis and Characterization of Novel
Dipyridylbenzothiadiazole and
Bisbenzothiadiazole Derivatives
AUTHOR(S): Akhtaruzzaman, Md.; Tomura, Masaaki; Nishida,
Junichi; Yamashita, Yoshiro
CORPORATE SOURCE: Department of Electronic Chemistry,
Interdisciplinary Graduate School of Science and
Engineering, Tokyo Institute of Technology,
Midori, Yokohama, 226-8502, Japan
SOURCE: Journal of Organic Chemistry (2004), 69(9),
2953-2958
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:423627

AB Novel dipyridyl compds. contg. a mono- and bisbenzothiadiazole unit
were synthesized using the Stille coupling reaction. Their
pyridinium salts, viologen analogs, were also prepd. by
N-alkylation. The X-ray crystallog. anal. of the compds. contg. a
benzothiadiazole ring revealed nonplanar mol. structures and unique
crystal structures depending on the nitrogen positions. The
dipyridyl compds. are efficient fluorophores with high electron
affinity. 4,7-Di(2-pyridyl)-2,1,3-benzothiadiazole afforded
complexes with chloranilic acid and cyanuric acid composed of
hydrogen bonding networks. The Me viologen analogs showed two-stage
one-electron redn. waves.

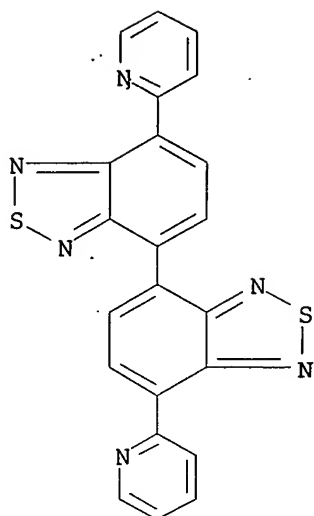
IT 692259-95-3P 692259-96-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. and characterization of novel dipyridylbenzothiadiazole
and -bisbenzothiadiazole derivs.)
RN 692259-95-3 HCAPLUS
CN 4,4'-Bi-2,1,3-benzothiadiazole, 7,7'-di-3-pyridinyl- (9CI) (CA
INDEX NAME)



RN 692259-96-4 HCAPLUS
CN 4,4'-Bi-2,1,3-benzothiadiazole, 7,7'-di-4-pyridinyl- (9CI) (CA
INDEX NAME)



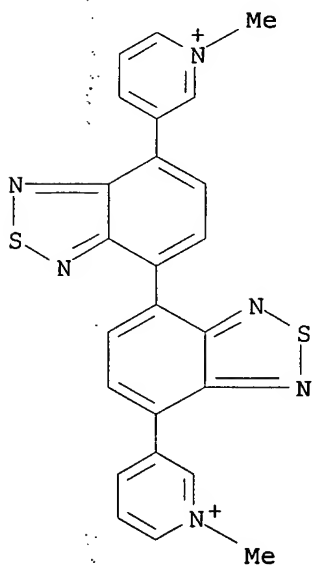
IT 692259-94-2P 692260-03-0P 692260-05-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of novel dipyridylbenzothiadiazole
and -bisbenzothiadiazole derivs.)
RN 692259-94-2 HCAPLUS
CN 4,4'-Bi-2,1,3-benzothiadiazole, 7,7'-di-2-pyridinyl- (9CI) (CA
INDEX NAME)



RN 692260-03-0 HCAPLUS
 CN Pyridinium, 3,3'-[4,4'-bi-2,1,3-benzothiadiazole]-7,7'-diylbis[1-methyl-, salt with trifluoromethanesulfonic acid (1:2) (9CI) (CA INDEX NAME)

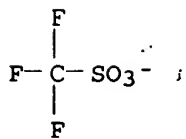
CM 1

CRN 692260-02-9
 CMF C24 H18 N6 S2



CM 2

CRN 37181-39-8
 CMF C F3 O3 S

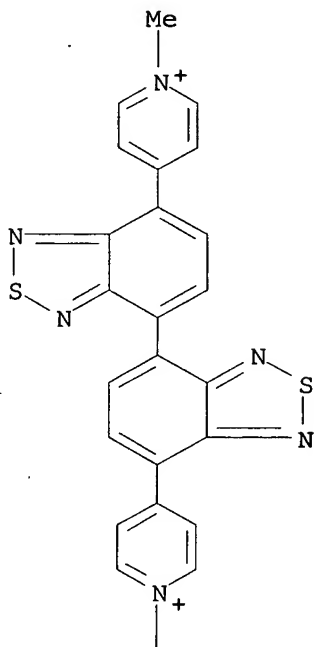


RN 692260-05-2 HCAPLUS
CN Pyridinium, 4,4'-[4,4'-bi-2,1,3-benzothiadiazole]-7,7'-diylbis[1-methyl-, salt with trifluoromethanesulfonic acid (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 692260-04-1
CMF C24 H18 N6 S2

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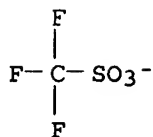


PAGE 2-A



CM 2

CRN 37181-39-8
CMF C F3 O3 S



CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 75
 IT 692259-95-3P 692259-96-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. and characterization of novel dipyridylbenzothiadiazole
 and -bisbenzothiadiazole derivs.)
 IT 692259-94-2P 692260-00-7P 692260-03-0P
 692260-05-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and characterization of novel dipyridylbenzothiadiazole
 and -bisbenzothiadiazole derivs.)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L68 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:71976 HCAPLUS
 DOCUMENT NUMBER: 136:126619
 TITLE: Markable polymer composition and marking process
 INVENTOR(S): Van Dijk, Saskia Ingeborg; Aagaard, Olav Marcus;
 Van den Elshout, Wilhelmus Henricus Hubertus
 Antonius
 PATENT ASSIGNEE(S): DSM N.V., Neth.
 SOURCE: PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002006058	A1	20020124	WO 2001-NL531	20010711
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG NL 1015710 C2 20020115 NL 2000-1015710				

PRIORITY APPLN. INFO.: NL 2000-1015710 A

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

200007

14

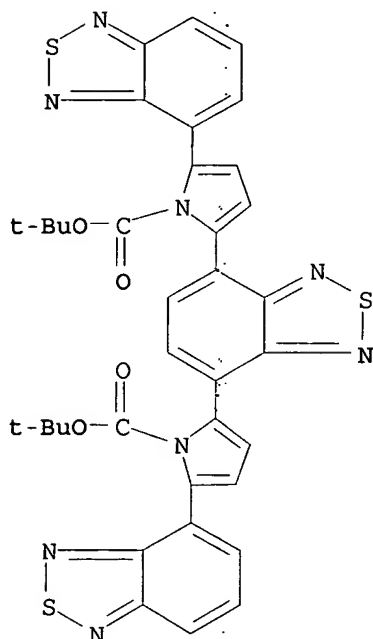
AB The invention relates to a polymer compn. that can be marked in one or more colors and that contains a polymer matrix and at least one prechromic compd. which can be converted into at least two differently colored conjugated compds., each with a different increased conjugation length, by supplying energy. The invention also relates to an object entirely or partly made of said polymer compn., to a process for marking such an object in one or more colors and to a marked object thus obtained.

IT 212117-62-9

RL: TEM (Technical or engineered material use); USES (Uses)
(prechromic precursor; markable polymer compn. and marking process contg.)

RN 212117-62-9 HCAPLUS

CN 1H-Pyrrole-1-carboxylic acid, 2,2'-(2,1,3-benzothiadiazole-4,7-diyl)bis[5-(2,1,3-benzothiadiazol-4-yl)-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



IC ICM B41M005-26

ICS B41M005-28; G03C001-73; G03C007-46; C08K005-46; C08K005-3415;
B41M005-34

CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 212117-62-9

RL: TEM (Technical or engineered material use); USES (Uses)
(prechromic precursor; markable polymer compn. and marking process contg.)

REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L68 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:376152 HCAPLUS

DOCUMENT NUMBER: 135:182978

TITLE: Low-bandgap polymer photovoltaic cells

AUTHOR(S): van Duren, J. K. J.; Dhanabalan, A.; van Hal, P. A.; Janssen, R. A. J.

CORPORATE SOURCE: Laboratory of Macromolecular and Organic Chemistry, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.

SOURCE: Synthetic Metals (2001), 121(1-3), 1587-1588
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel low-bandgap conjugated polymer (PTPTB, $E_g = -1.6$ eV), consisting of alternating electron-rich N-dodecyl-2,5-bis(2'-thienyl)pyrrole (TPT) and electron-deficient 2,1,3-benzothiadiazole (B) units, as a donor material is studied together with a sol. fullerene deriv. (PCBM) as acceptor to prep. bulk heterojunction photovoltaic cells. Photoinduced absorption (PIA) and fluorescence spectroscopy on blends of PTPTB and PCBM gave direct spectral evidence of the photogeneration of a charge-sepd. state. Preliminary results on photovoltaic cells prepd. using thin PTPTB:PCBM films as an active layer, sandwiched between ITO/PEDOT:PSS and Al electrodes, showed promising characteristics.

IT 355142-46-0 355142-47-1 355142-48-2

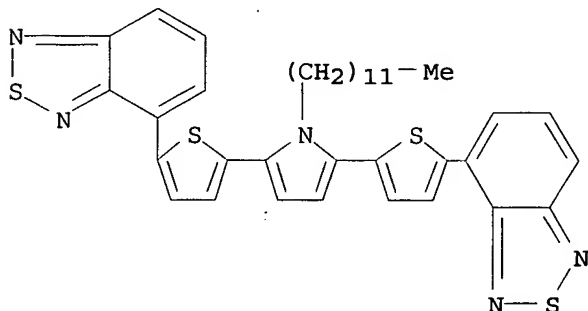
355142-49-3 355142-50-6 355142-51-7

355142-52-8 355142-53-9

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(low-band-gap polymer photovoltaic cells)

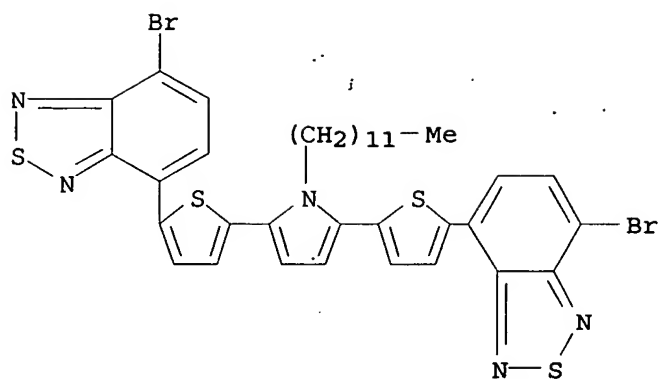
RN 355142-46-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,4'-[(1-dodecyl-1H-pyrrole-2,5-diyl)di-5,2-thiophenediyl]bis- (9CI) (CA INDEX NAME)



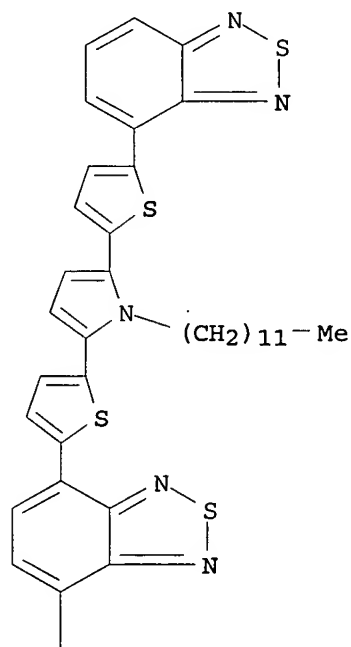
RN 355142-47-1 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,4'-[(1-dodecyl-1H-pyrrole-2,5-diyl)di-5,2-thiophenediyl]bis[7-bromo- (9CI) (CA INDEX NAME)

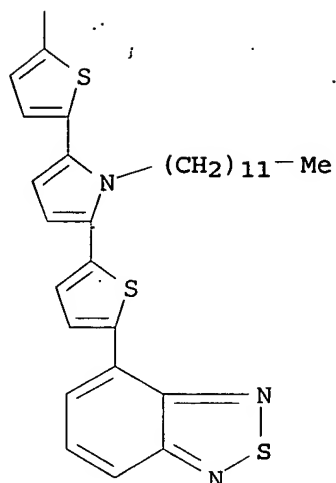


RN 355142-48-2 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,7-bis[5-[5-[5-(2,1,3-benzothiadiazol-4-yl)-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]- (9CI) (CA INDEX NAME)

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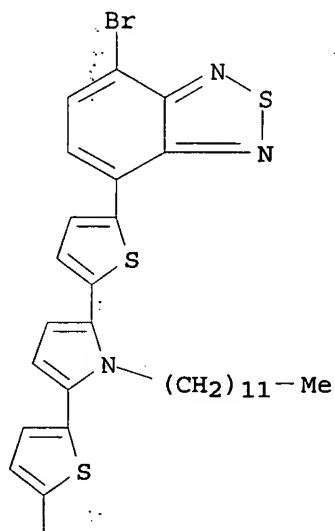


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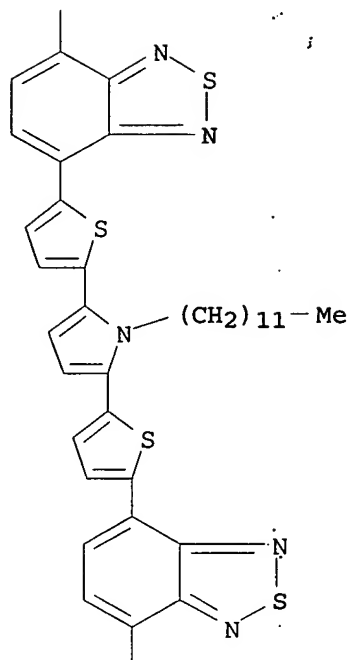


RN 355142-49-3 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[5-[5-(7-bromo-2,1,3-benzothiadiazol-4-yl)-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]- (9CI) (CA INDEX NAME)

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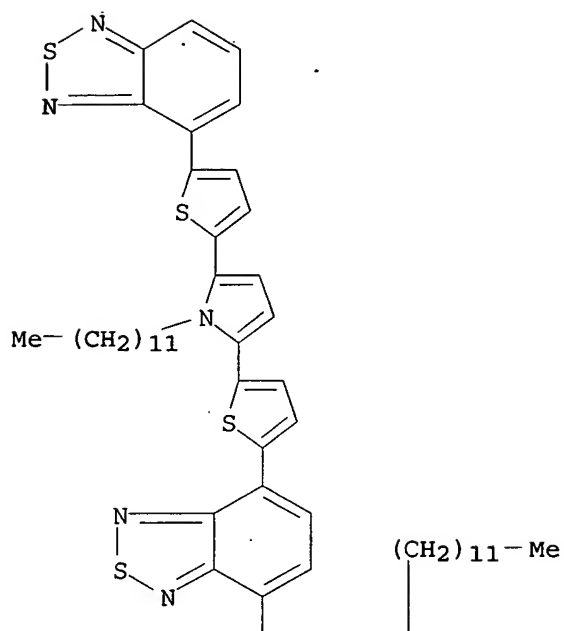


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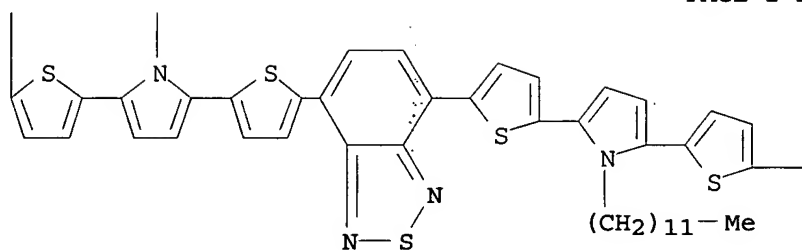


RN 355142-50-6 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,4'-[(1-dodecyl-1H-pyrrole-2,5-diyl)di-5,2-thiophenediyl]bis[7-[5-[5-[5-(2,1,3-benzothiadiazol-4-yl)-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]- (9CI) (CA INDEX NAME)

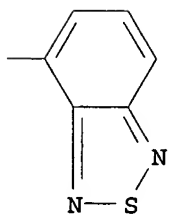
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PAGE 2-B



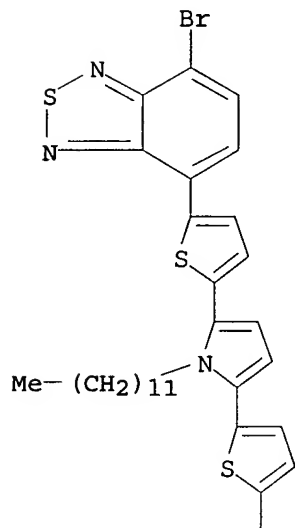
RN 355142-51-7 HCAPLUS
 CN 2,1,3-Benzothiadiazole, 4,4'-[(1-dodecyl-1H-pyrrole-2,5-diyl)di-5,2-

MEI HUANG EIC1700 REM4B28 571-272-3952

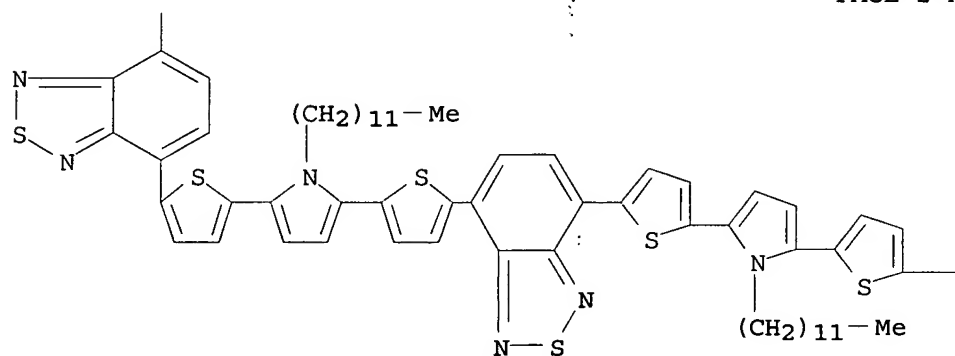
08/14/2006

thiophenediyl]bis[7-[5-[5-[5-(7-bromo-2,1,3-benzothiadiazol-4-yl)-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]- (9CI) (CA INDEX NAME)

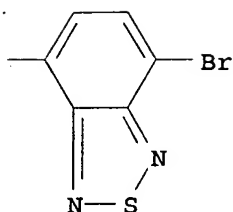
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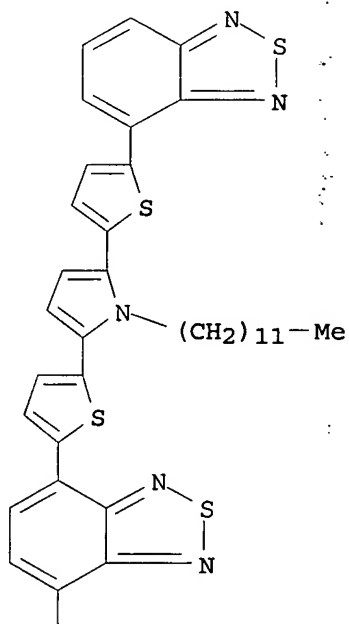


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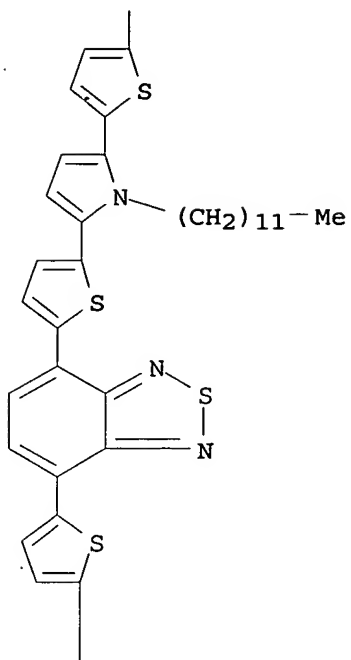


RN 355142-52-8 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[5-[5-[5-[7-[5-[5-[5-(2,1,3-benzothiadiazol-4-yl)-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]-2,1,3-benzothiadiazol-4-yl]-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]- (9CI) (CA INDEX NAME).

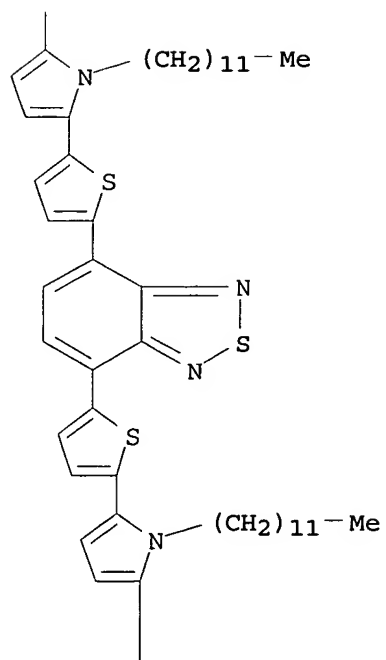
PAGE 1-A



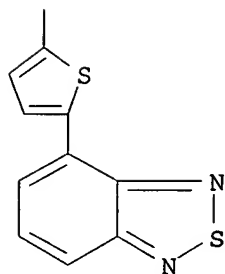
PAGE 2-A



PAGE 3-A

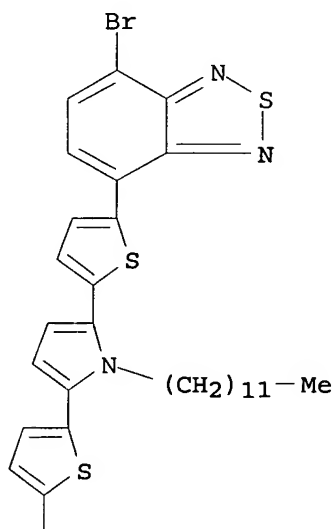


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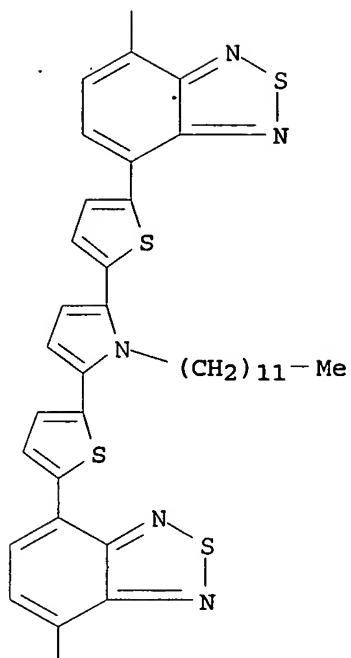


RN	355142-53-9	HCAPLUS
CN	2,1,3-Benzothiadiazole, 4,7-bis[5-[5-[5-[7-[5-[5-[5-(7-bromo-2,1,3-benzothiadiazol-4-yl)-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]-2,1,3-benzothiadiazol-4-yl]-2-thienyl]-1-dodecyl-1H-pyrrol-2-yl]-2-thienyl]- (9CI) (CA INDEX NAME)	

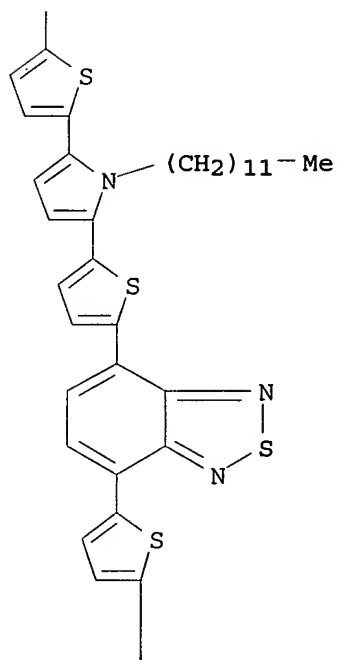
PAGE 1-A



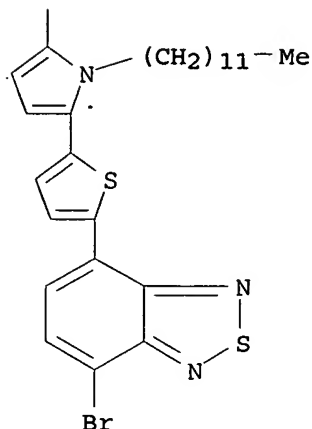
PAGE 2-A



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CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 74, 76
IT 160848-22-6 355142-46-0 355142-47-1
355142-48-2 355142-49-3 355142-50-6
355142-51-7 355142-52-8 355142-53-9
RL: DEV (Device component use); TEM (Technical or engineered
material use); USES (Uses)
(low-band-gap polymer photovoltaic cells)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L68 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:532178 HCAPLUS
DOCUMENT NUMBER: 129:261125
TITLE: Band-gap engineering of donor-acceptor
conjugated polymers
AUTHOR(S): Van Mullekom, H. A. M.; Vekemans, J. A. J. M.;
Meijer, E. W.
CORPORATE SOURCE: Lab. Macromol. and Org. Chem., Eindhoven Univ.
Technol., Eindhoven, 5600 MB, Neth.
SOURCE: Polymer Preprints (American Chemical Society,
Division of Polymer Chemistry) (1998), 39(2),
1002-1003
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer
Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Three series of alternating donor-acceptor substituted co-oligomers
(with different chain length), consisting of pyrrole or thiophene as
the electron-rich unit and quinoxaline or 2,1,3,-
benzobisthiadiazoles as the electron-deficient unit, were prep'd. by
Pd-catalyzed Stille coupling methodol. The incremental bathochromic
shift of the absorption max. upon chain elongation of the three
series of oligomers is less than that of the homo-oligomers of
thiophene and pyrrole, which is caused by a diminished dispersion of
the LUMO level upon chain elongation. The latter conclusion was
drawn after comparing the oxidn.- and redn. behavior of the
thiophene/benzothiadiazole oligomers with that of thiophene
oligomers. The incremental bathochromic shift shows similarity for

all three series of oligomers, which is used as a tool in the band-gap engineering of donor-acceptor substituted conjugated polymers.

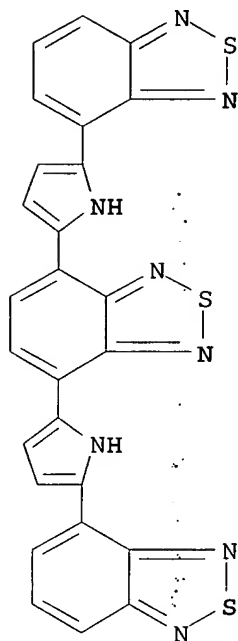
IT 182226-13-7P 212117-55-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(conjugated chain length effect on LUMO dispersion to modify band-gap of donor-acceptor conjugated polypyrrole and polythiophene oligomers)

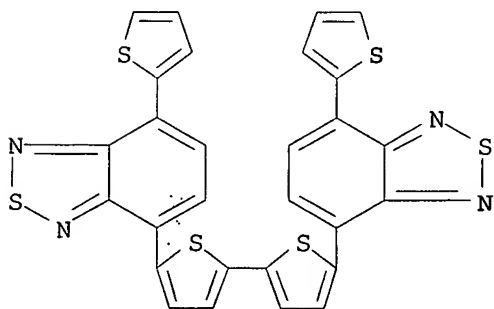
RN 182226-13-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis[5-(2,1,3-benzothiadiazol-4-yl)-1H-pyrrol-2-yl]- (9CI) (CA INDEX NAME)



RN 212117-55-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,4'-[2,2'-bithiophene]-5,5'-diylbis[7-(2-thienyl)- (9CI) (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 35, 74

IT 165190-76-1P 182226-11-5P 182226-12-6P 182226-13-7P

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212117-49-2P 212117-50-5P 212117-51-6P 212117-52-7P
212117-53-8P 212117-54-9P 212117-55-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(conjugated chain length effect on LUMO dispersion to modify
band-gap of donor-acceptor conjugated polypyrrole and
polythiophene oligomers)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L68 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:482600 HCAPLUS

DOCUMENT NUMBER: 129:202629

TITLE: Band-gap engineering of donor-acceptor-
substituted π -conjugated polymers

AUTHOR(S): Van Mullekom, H. A. M.; Vekemans, J. A. J. M.;
Meijer, E. W.

CORPORATE SOURCE: Laboratory of Organic Chemistry, Eindhoven
University of Technology, Eindhoven, N-5600 MB,
Neth.

SOURCE: Chemistry--A European Journal (1998), 4(7),
1235-1243

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Three series of alternating donor-acceptor-substituted co-oligomers
(with different chain lengths) have been prepd. by application of
the Pd-catalyzed Stille coupling methodol. They contain pyrrole or
thiophene as the electron-rich unit and quinoxaline or
2,1,3-benzothiadiazole as the electron-deficient unit. The
trimethylstannyl group is always located on the electron-rich unit,
whereas the bromo substituent is always located on the
electron-deficient one. The tBoc-protecting group is used in the
synthesis of the pyrrole-contg. oligomers. The incremental
bathochromic shift of λ_{\max} upon chain elongation of the three
series of oligomers is less than that of the homo-oligomers of
thiophene and pyrrole; this decrease is caused by a diminished
dispersion of the LUMO level upon chain elongation. This conclusion
was drawn after comparing the oxidn. and redn. behavior of the
thiophene/benzothiadiazole co-oligomers with that of thiophene
oligomers. The incremental bathochromic shift is similar for all
three series of oligomers and is used as a tool in the band-gap
engineering of donor-acceptor-substituted π -conjugated polymers.

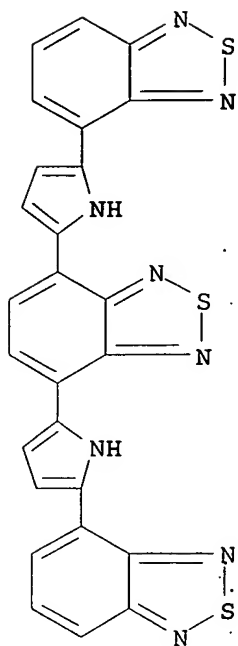
IT 182226-13-7P 212117-55-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(band-gap engineering of donor-acceptor-substituted
 π -conjugated polymers studied at the level of alternating
donor-acceptor-substituted co-oligomers with different chain
lengths)

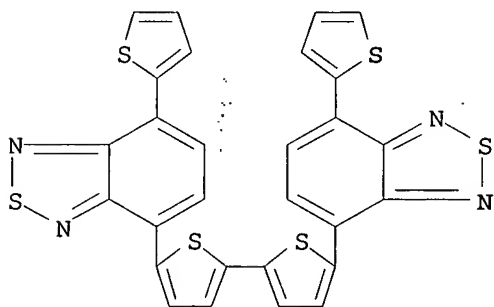
RN 182226-13-7 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis[5-(2,1,3-benzothiadiazol-4-yl)-1H-
pyrrol-2-yl]- (9CI) (CA INDEX NAME)



RN 212117-55-0 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,4'-[2,2'-bithiophene]-5,5'-diylbis[7-(2-thienyl)- (9CI) (CA INDEX NAME)



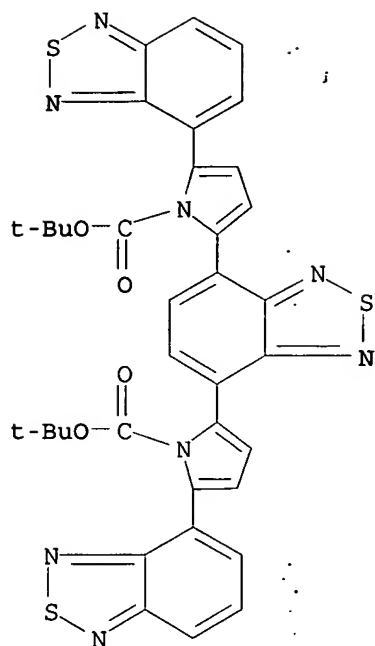
IT 212117-62-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(band-gap engineering of donor-acceptor-substituted
 π -conjugated polymers studied at the level of alternating
 donor-acceptor-substituted cooligomers with different chain
 lengths)

RN 212117-62-9 HCAPLUS

CN 1H-Pyrrole-1-carboxylic acid, 2,2'-(2,1,3-benzothiadiazole-4,7-diyl)bis[5-(2,1,3-benzothiadiazol-4-yl)-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)
 Section cross-reference(s): 36, 76

IT 182226-11-5P 182226-12-6P 182226-13-7P 212117-49-2P
 212117-50-5P 212117-51-6P 212117-52-7P 212117-53-8P
 212117-54-9P 212117-55-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (band-gap engineering of donor-acceptor-substituted
 π -conjugated polymers studied at the level of alternating
 donor-acceptor-substituted cooligomers with different chain
 lengths)

IT 212117-56-1P 212117-57-2P 212117-58-3P 212117-59-4P
 212117-60-7P 212117-61-8P 212117-62-9P 212117-63-0P
 212117-64-1P 212117-65-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (band-gap engineering of donor-acceptor-substituted
 π -conjugated polymers studied at the level of alternating
 donor-acceptor-substituted cooligomers with different chain
 lengths)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L68 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:618020 HCAPLUS

DOCUMENT NUMBER: 125:248703

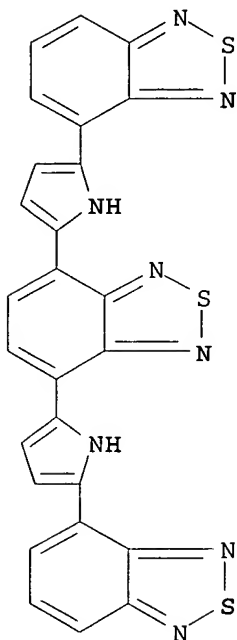
TITLE: Alternating copolymer of pyrrole and
 2,1,3-benzothiadiazole

AUTHOR(S): van Mullekom, H. A. M.; Vekemans, J. A. J. M.;
 Meijer, E. W.

CORPORATE SOURCE: Laboratory of Organic Chem., Eindhoven Univ. of
 Technology, Eindhoven, 5600 MB, Neth.

SOURCE: Chemical Communications (Cambridge) (1996),

(18), 2163-2164
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The alternating copolymer of pyrrole and 2,1,3-benzothiadiazole is synthesized together with a set of corresponding oligomers, yielding hydrogen bonded ladder structures with push-pull character and an absorption band up to λ_{max} 700 nm.
IT 182226-13-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of pyrrole-2,1,3-benzothiadiazole alternating copolymer and model oligomers)
RN 182226-13-7 HCAPLUS
CN 2,1,3-Benzothiadiazole, 4,7-bis[5-(2,1,3-benzothiadiazol-4-yl)-1H-pyrrol-2-yl]- (9CI) (CA INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)
IT 182226-11-5P 182226-12-6P 182226-13-7P 182226-15-9DP,
deprotected 182226-16-0DP, deprotected
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of pyrrole-2,1,3-benzothiadiazole alternating copolymer and model oligomers)

=> d 169 ibib abs hitstr hitind 1-13

L69 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:52158 HCAPLUS
DOCUMENT NUMBER: 144:282900
TITLE: The first single polymer with simultaneous blue, green, and red emission for white

electroluminescence

AUTHOR(S): Liu, Jun; Zhou, Quanguo; Cheng, Yanxiang; Geng, Yanhou; Wang, Lixiang; Ma, Dongge; Jing, Xiabin; Wang, Fosong

CORPORATE SOURCE: State Key Laboratory of Polymer Physics and Chemistry Changchun Institute of Applied Chemistry, Graduate School of the Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China

SOURCE: Advanced Materials (Weinheim, Germany) (2005), 17(24), 2974-2978
CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

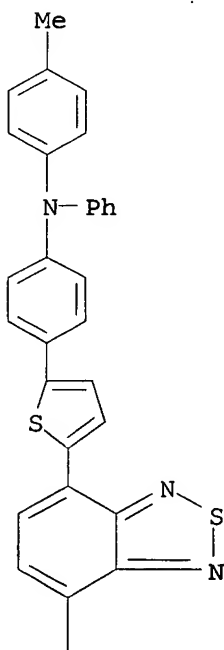
AB A light-emitting polymer with simultaneous blue ($\lambda_{\max} = 445$ nm), green ($\lambda_{\max} = 515$ nm), and red light ($\lambda_{\max} = 624$ nm) emission for bias-independent white electroluminescence is reported. The polymer is synthesized by covalently attaching a green-light-emissive and a red-light-emissive chromophore to a macromol. with blue-light emission. White-light color coordinates of (0.31, 0.34) and a luminance efficiency of 1.59 cd A⁻¹ are obtained.

IT 877955-67-4
RL: MOA (Modifier or additive use); USES (Uses)
(red dopant, RMC; single polymer with simultaneous blue, green, and red emission for white electroluminescence)

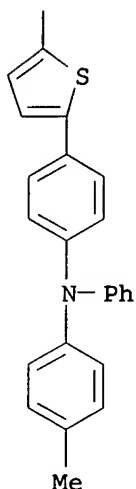
RN 877955-67-4 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)-5,2-thiophenediyl)bis[N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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IT 877955-56-1P 877955-64-1P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (single polymer with simultaneous blue, green, and red emission for white electroluminescence)

RN 877955-56-1 HCAPLUS

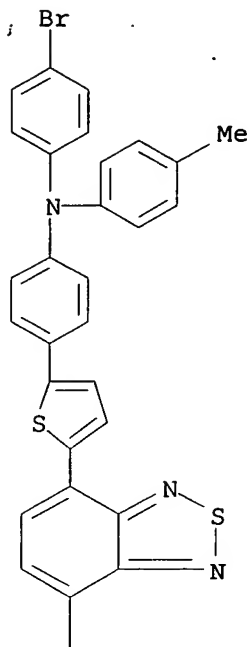
CN 1H-Benz[de]isoquinoline-1,3(2H)-dione, 2-[2-[2,5-dibromo-4-(octyloxy)phenoxy]ethyl]-6-(diphenylamino)-, polymer with 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)-5,2-thiophenediyl)bis[N-(4-bromophenyl)-N-(4-methylphenyl)benzenamine], 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (9CI) (CA INDEX NAME)

CM 1

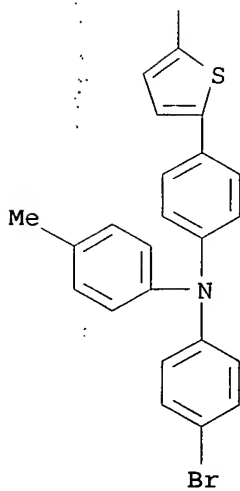
CRN 877955-53-8

CMF C52 H36 Br2 N4 S3

PAGE 1-A



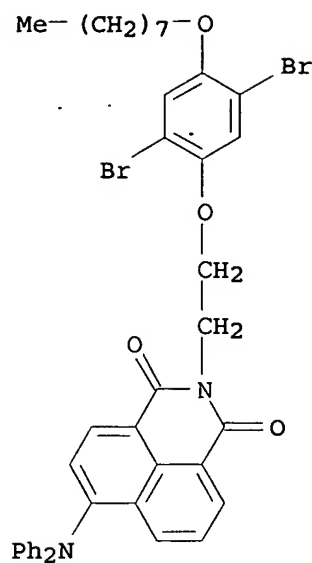
PAGE 2-A



CM 2

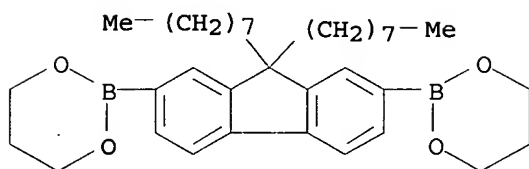
CRN 877955-50-5

CMF C40 H38 Br2 N2 O4



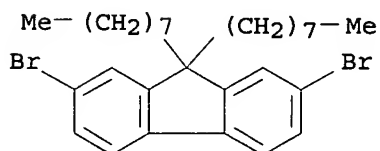
CM 3

CRN 317802-08-7
CMF C35 H52 B2 O4



CM 4

CRN 198964-46-4
CMF C29 H40 Br2

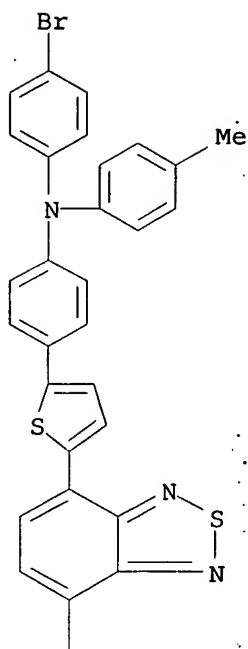


RN 877955-64-1 HCAPLUS
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl-di-5,2-thiophenediyl)bis[N-(4-bromophenyl)-N-(4-methylphenyl)-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (9CI) (CA INDEX NAME)

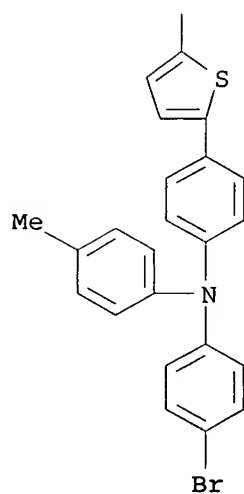
CM 1

CRN 877955-53-8
CMF C52 H36 Br2 N4 S3

PAGE 1-A

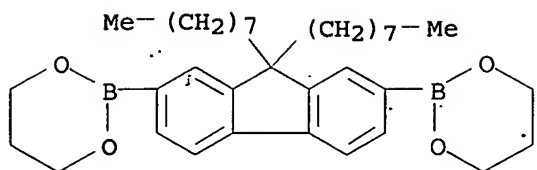


PAGE 2-A



CM 2

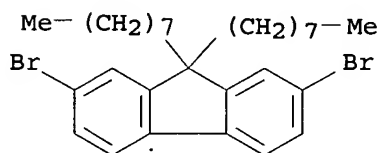
CRN 317802-08-7
CMF C35 H52 B2 O4



CM 3

CRN 198964-46-4

CMF C29 H40 Br2



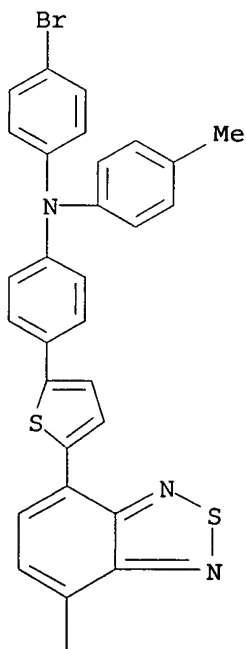
IT 877955-53-8P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (single polymer with simultaneous blue, green, and red emission
 for white electroluminescence)

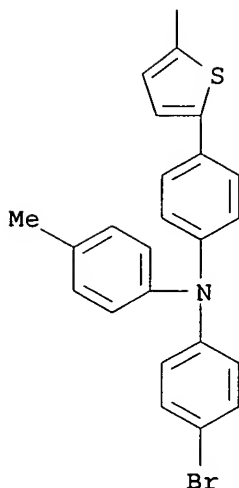
RN 877955-53-8 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)-5,2-
 thiophenediyl)bis[N-(4-bromophenyl)-N-(4-methylphenyl)- (9CI) (CA
 INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76

IT 877955-67-4
RL: MOA (Modifier or additive use); USES (Uses)
(red dopant, RMC; single polymer with simultaneous blue, green, and red emission for white electroluminescence)

IT 877955-56-1P 877955-61-8P 877955-64-1P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(single polymer with simultaneous blue, green, and red emission for white electroluminescence)

IT 877955-50-5P 877955-53-8P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(single polymer with simultaneous blue, green, and red emission for white electroluminescence)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1026011 HCAPLUS

DOCUMENT NUMBER: 143:335872

TITLE: Organic nonlinear optical material

INVENTOR(S): Mataga, Shuntaro; Thiemann, Thies; Ishii, Tsutomu; Kato, Shinichiro; Goromaru, Hideki; Shigeiwa, Noriyuki; Maeda, Shuichi

PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005258388	A2	20050922	JP 2004-239729	20040819
PRIORITY APPLN. INFO.:			JP 2003-404725	A 20031203
			JP 2004-32223	A 20040209

OTHER SOURCE(S): MARPAT 143:335872

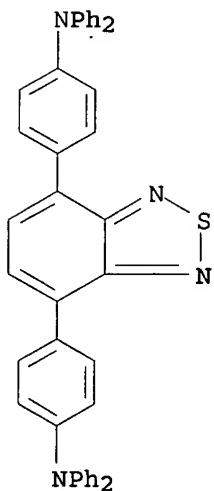
AB The invention relates to an org. nonlinear optical material, characterized by a large two-photon absorption cross section, and a large Stokes shift, and represented by $(Ar_2)_m-Ar_1-(Ar_3)_m$ [Ar_1 = divalent heterocyclic group; Ar_2 and Ar_3 = heterocyclics and arom. hydrocarbons; and m and n = 1-4 integers].

IT 333432-20-5P 688803-92-1P 803731-72-8P
803731-73-9P 803731-74-0P 803731-75-1P
803731-76-2P

RL: PNU (Preparation, unclassified); SPN (Synthetic preparation);
PREP (Preparation)
(org. nonlinear optical material)

RN 333432-20-5 HCAPLUS

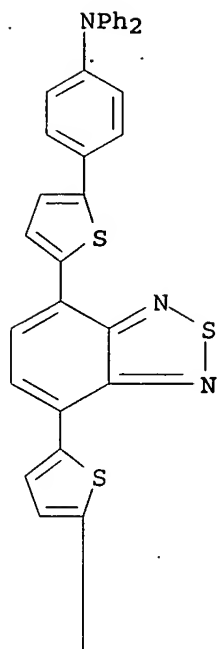
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl-
(9CI) (CA INDEX NAME)



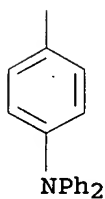
RN 688803-92-1 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl-
thiophenediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

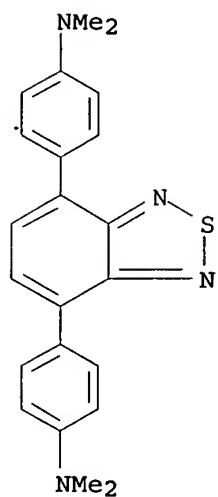
PAGE 1-A



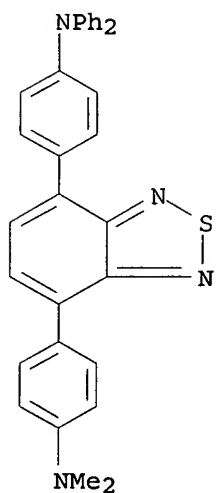
PAGE 2-A



RN 803731-72-8 HCAPLUS
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-dimethyl-
(9CI) (CA INDEX NAME)

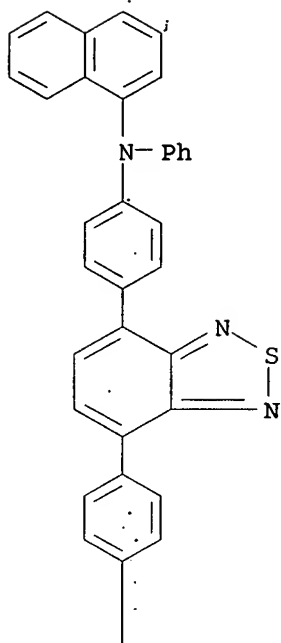


RN 803731-73-9 HCAPLUS
 CN Benzenamine, 4-[7-[[4-(dimethylamino)phenyl]-2,1,3-benzothiadiazol-4-yl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

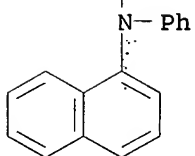


RN 803731-74-0 HCAPLUS
 CN 1-Naphthalenamine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl-di-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

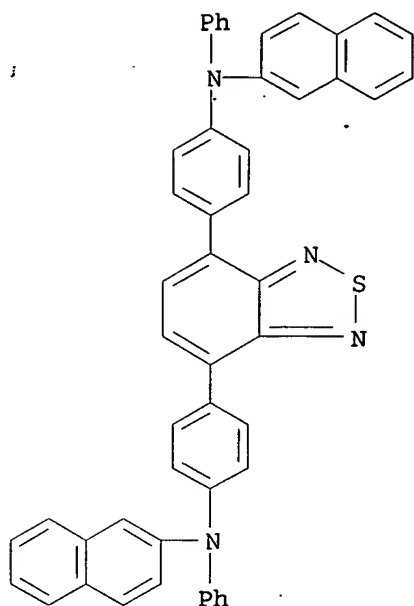
PAGE 1-A



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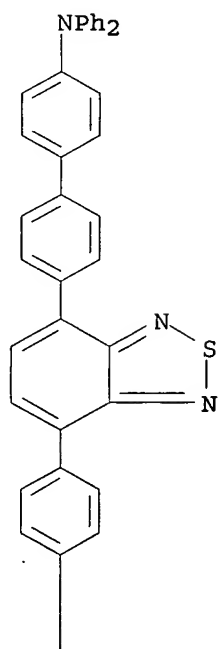


RN 803731-75-1 HCAPLUS
CN 2-Naphthalenamine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl)di-4,1-phenylene)bis(N-phenyl- (9CI) (CA INDEX NAME)

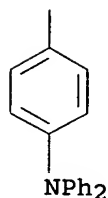


RN 803731-76-2 HCAPLUS
CN [1,1'-Biphenyl]-4-amine, 4',4''-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

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IC ICM G02F001-361
ICS C07D285-14; C07D417-14; C07D498-04
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28
IT 28611-39-4P, 4-Dimethylaminophenyl boronic acid 333432-20-5P
421555-21-7P 666751-43-5P 688803-92-1P
803731-72-8P 803731-73-9P 803731-74-0P
803731-75-1P 803731-76-2P 803731-77-3P
803731-78-4P 830325-94-5P 865091-72-1P 865091-73-2P
RL: PNU (Preparation, unclassified); SPN (Synthetic preparation);
PREP (Preparation)
(org. nonlinear optical material)

L69 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:994198 HCAPLUS
DOCUMENT NUMBER: 143:435043
TITLE: Benzothiadiazoles and Dipyrrolyl Quinoxalines
with Extended Conjugated Chromophores-
Fluorophores and Anion Sensors
AUTHOR(S): Aldakov, Dmitry; Palacios, Manuel A.;
Anzenbacher, Pavel, Jr.
CORPORATE SOURCE: Department of Chemistry and Center for
Photochemical Sciences, Bowling Green State
University, Bowling Green, OH, 43403, USA
SOURCE: Chemistry of Materials (2005), 17(21), 5238-5241
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:435043

AB A new class of fluorescent heterocycles, bearing extended conjugated chromophores with incorporated 2,3-di(1H-2-pyrrolyl)quinoxaline, potentially useful as chromophores and sensors were prepd. by a simple methodol. utilizing Suzuki and Stille cross-coupling. The resulting materials show bright fluorescence and remarkable emission tuning. The compds. displayed anion-induced fluorescence quenching thus acting as potential sensors for inorg. anions. The anion titrn. expts. using sensors S1-S6 revealed affinity for small or multiply charged anions such as fluoride and dihydrogen pyrophosphate. Preliminary expts. in water-miscible solvents showed that the anion binding/sensing process is not disrupted when anions are added in the form of aq. solns. Finally, multiwell assays utilizing polyurethane-embedded sensors allow for colorimetric screening of aq. anion solns. indicating that the described compds. and approach may yield inexpensive yet effective fluorescence-based anion-sensor assays in the future.

IT 803731-72-8P
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); DEV (Device component use); RCT (Reactant); SPN

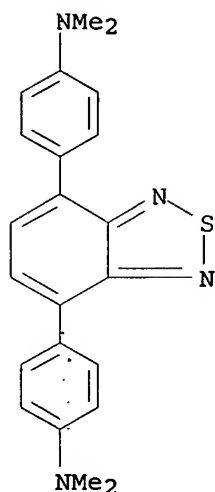
MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

(Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (benzothiadiazoles and dipyrrolyl quinoxalines with extended conjugated chromophores-fluorophores and anion sensors)

RN 803731-72-8 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-dimethyl-
(9CI) (CA INDEX NAME)



CC 9-5 (Biochemical Methods)

Section cross-reference(s): 28

IT 240823-06-7P 287976-96-9P 503862-08-6P 803731-72-8P

868770-59-6P 868770-60-9P

RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (benzothiadiazoles and dipyrrolyl quinoxalines with extended conjugated chromophores-fluorophores and anion sensors)

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:952883 HCAPLUS

DOCUMENT NUMBER: 143:429952

TITLE: Full Emission Color Tuning in Bis-Dipolar Diphenylamino-Endcapped Oligoarylfluorenes

AUTHOR(S): Li, Zhong Hui; Wong, Man Shing; Fukutani, Hiroshi; Tao, Ye

CORPORATE SOURCE: Department of Chemistry and Center for Advanced Luminescence Materials, Hong Kong Baptist University, Hong Kong, Peop. Rep. China

SOURCE: Chemistry of Materials (2005), 17(20), 5032-5040
CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel series of monodisperse bis-dipolar emissive oligoarylfluorenes, OF(2)Ar-NPh, bearing an electron affinitive

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08/14/2006

core, 9,9-dibutylfluorene as conjugated bridges, and diphenylamino as end-caps was successfully synthesized by a convergent approach using palladium catalyzed Suzuki cross-coupling. The results of optical and electrochem. investigations showed that the HOMO, LUMO, and energy gap of these diphenylamino end-capped oligoarylfluorenes can easily be modified or tuned by the use of various electron affinitive central aryl cores that included dibenzothiophene, phenylene, oligothiophenes, 2,1,3-benzothiadiazole, 4,7-dithien-2-yl-2,1,3-benzothiadiazole, thiophene S,S'-dioxide, and dibenzothiophene S,S'-dioxide as well as the extent of the π -conjugated core. As a result, their emission bands measured in chloroform can cover the full UV-vis spectrum (from 412 to 656 nm). In contrast to the common dipolar chromophores, most of OF(2)Ar-NPhs can form morphol. stable amorphous thin films ($T_g = 88-127^\circ$ C) with a high decompn. temp., $T_{dec} > 450^\circ$ C. Remarkably, undoped OF(2)Ar-NPh-based multilayer OLEDs could exhibit good to excellent device performance with emission colors spanning the full UV-vis spectrum. OF(2)Ar-NPh bearing oligothiophene core based devices exhibit a max. luminance of 5000-12500 cd m⁻² and luminous efficiency up to 3.6-4.0 cd A⁻¹. Our findings provide a practical approach to design and tune the color emission of efficient and potentially useful light emitting materials.

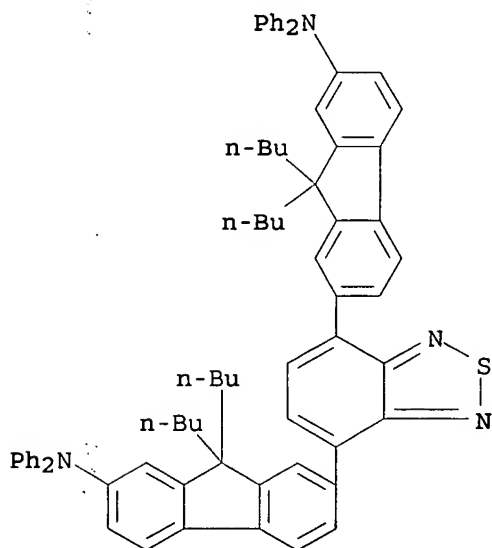
IT 868133-52-2P 868133-54-4P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(photophys. and electrochem. properties of bis-dipolar diphenylamino-end-capped oligoarylfluorenes synthesized by convergent approach using palladium catalyzed Suzuki cross-coupling)

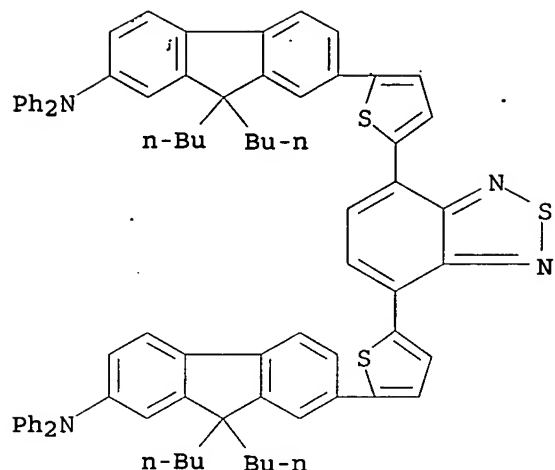
RN 868133-52-2 HCAPLUS

CN 9H-Fluoren-2-amine, 7,7'-(2,1,3-benzothiadiazole-4,7-diyl)bis[9,9-dibutyl-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 868133-54-4 HCAPLUS

CN 9H-Fluoren-2-amine, 7,7'-(2,1,3-benzothiadiazole-4,7-diyl)bis[9,9-dibutyl-N,N-diphenyl- (9CI) (CA INDEX NAME)



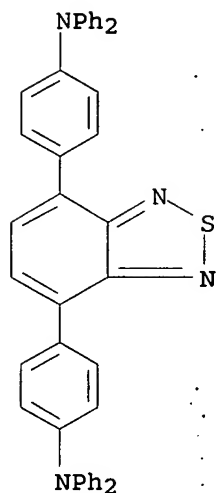
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 72, 73
 IT 857144-39-9P 868133-47-5P 868133-48-6P 868133-49-7P
 868133-50-0P 868133-51-1P **868133-52-2P** 868133-53-3P
868133-54-4P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (photophys. and electrochem. properties of bis-dipolar diphenylamino-end-capped oligoarylfluorenes synthesized by convergent approach using palladium catalyzed Suzuki cross-coupling)
 REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:336023 HCAPLUS
 DOCUMENT NUMBER: 143:62494
 TITLE: Organic Dyes Incorporating Low-Band-Gap Chromophores for Dye-Sensitized Solar Cells
 AUTHOR(S): Velusamy, Marappan; Thomas, K. R. Justin; Lin, Jiann T.; Hsu, Ying-Chan; Ho, Kuo-Chuan
 CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei, Taiwan
 SOURCE: Organic Letters (2005), 7(10), 1899-1902
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 143:62494
 AB Versatile dyes based on benzothiadiazole and benzoselenadiazole chromophores were developed that perform efficiently in dye-sensitized solar cells. Power conversion efficiency of 3.77% is realized for a dye in which charge recombination is probably hindered by the nonplanar charge-sepd. structure.
 IT **333432-20-5P 875314-79-7P**
 RL: SPN (Synthetic preparation); PREP (Preparation)

(org. dyes incorporating low-band-gap chromophores for
dye-sensitized solar cells)

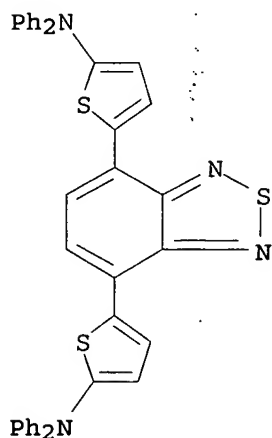
RN 333432-20-5 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl-
(9CI) (CA INDEX NAME)



RN 875314-79-7 HCAPLUS

CN 2-Thiophenamine, 5,5'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-
diphenyl- (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 42, 74, 76

IT 333432-20-5P 869964-47-6P 869964-48-7P 875314-58-2P
875314-79-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(org. dyes incorporating low-band-gap chromophores for
dye-sensitized solar cells)

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L69 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1121216 HCAPLUS

DOCUMENT NUMBER: 143:275050

TITLE: Development of new emitting amorphous molecular materials for organic light-emitting diodes

AUTHOR(S): Shirota, Yasuhiko; Okumoto, Kenji; Doi, Hidekaru; Maeda, Masanori; Yamate, Toshihiko

CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Osaka Univ., Yamadaoka, Suita, 565-0871, Japan

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2004), 5519(Organic Light-Emitting Materials and Devices VIII), 153-160

CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Mol. design concepts, synthesis, and properties of a few novel classes of emitting amorphous mol. materials with desired bipolar character are described. They include α,ω -bis{4-[bis(4-methylphenyl)amino]-phenyl}oligothiophene (BMA-nT), π -electron systems end-capped with 4-[bis(9,9-dimethylfluoren-2-yl)amino]-Ph group (BFA), and α -{4-[bis(9,9-dimethyl-fluoren-2-yl)amino]phenyl}- ω -(dimesitylboryl)oligothiophene (FLAMB-nT) families. Fabrication and performance of org. light-emitting diodes using these emitting materials are discussed.

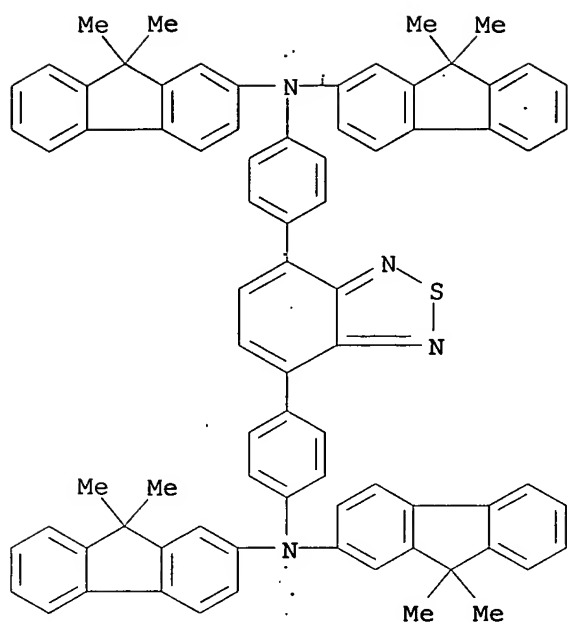
IT 791816-81-4 791816-84-7 863651-12-1

RL: DEV (Device component use); USES (Uses)

(new emitting amorphous mol. materials for org. light-emitting diodes)

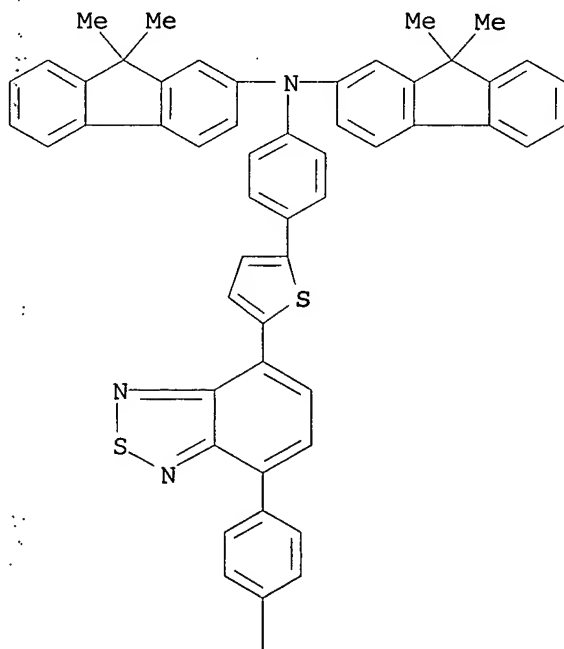
RN 791816-81-4 HCAPLUS

CN 9H-Fluoren-2-amine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl)di-4,1-phenylene}bis[N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

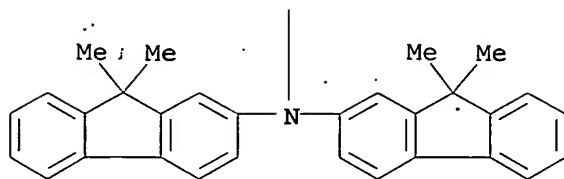


RN 791816-84-7 HCAPLUS
 CN 9H-Fluoren-2-amine, N-[4-[5-[7-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]-2,1,3-benzothiadiazol-4-yl]-2-thienyl]phenyl]-N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

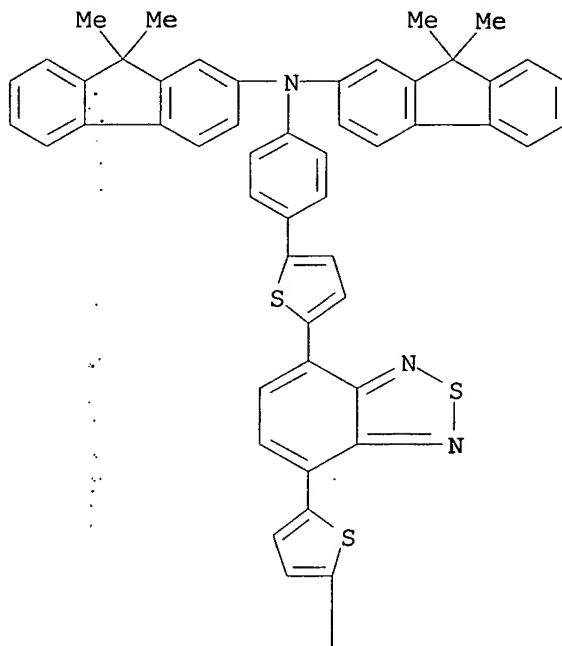


PAGE 2-A

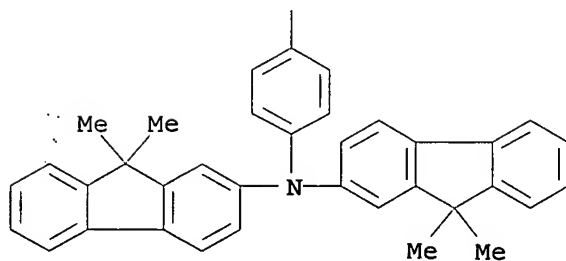


RN 863651-12-1 HCAPLUS
CN 9H-Fluoren-2-amine, N,N'-[2,1,3-benzothiadiazole-4,7-diylbis(5,2-thiophenediyl-4,1-phenylene)]bis[N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

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CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

IT 124613-45-2 188935-97-9 189346-08-5 193890-38-9 313050-70-3
356797-81-4 486405-31-6 503475-41-0 503475-42-1 503475-43-2
791816-79-0 791816-80-3 791816-81-4 791816-84-7
863651-12-1

RL: DEV (Device component use); USES (Uses)
(new emitting amorphous mol. materials for org. light-emitting diodes)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L69 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:957332 HCAPLUS

DOCUMENT NUMBER: 141:417627

TITLE: Luminescent material for electroluminescent device

INVENTOR(S): Shiota, Yasuhiko; Okumoto, Kenji; Yamate, Toshihiko

PATENT ASSIGNEE(S): Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

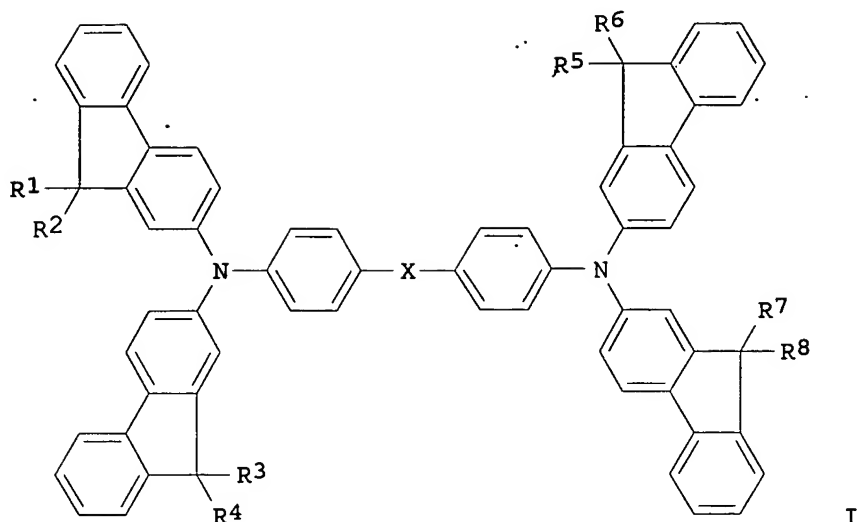
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004315366	A2	20041111	JP 2003-102474	20030407
				20030228

PRIORITY APPLN. INFO.: JP 2003-52889

OTHER SOURCE(S): MARPAT 141:417627

GI



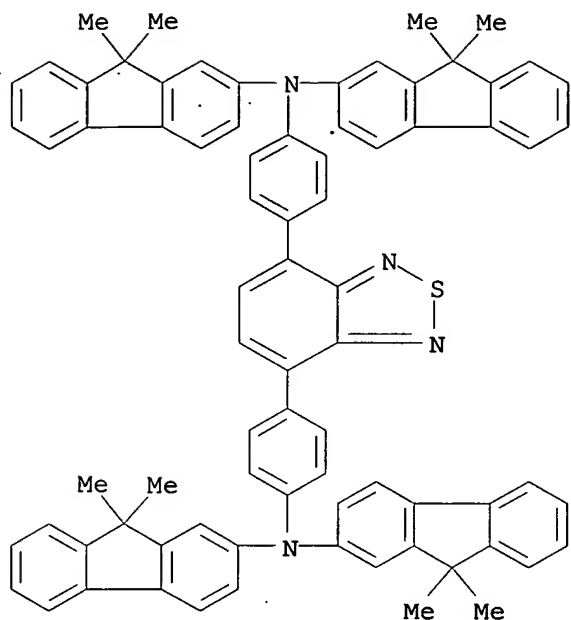
AB The invention relates to a luminescent material for an electroluminescent device, represented by I [R1-8 = H, C1-6 alkyl, and C1-6 alkoxy; and X = arom. group, preferably electron accepting group].

IT 791816-81-4P 791816-84-7P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(luminescent material with high glass transition temp. for electroluminescent device)

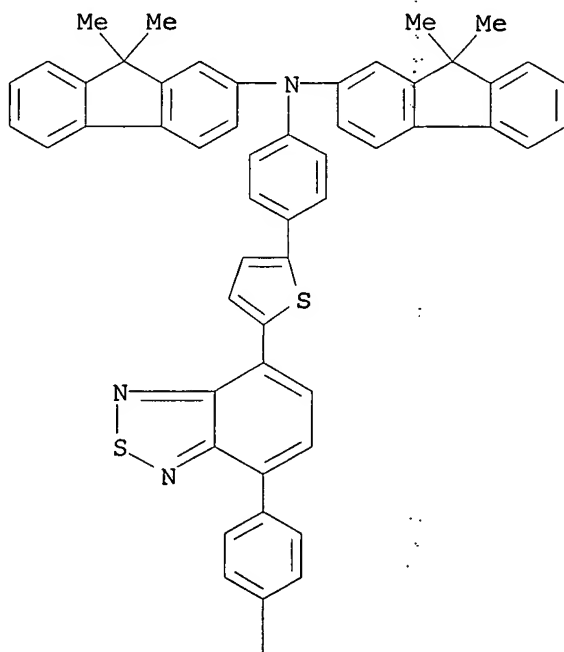
RN 791816-81-4 HCAPLUS

CN 9H-Fluoren-2-amine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl-di-4,1-phenylene)bis[N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI)
(CA INDEX NAME)

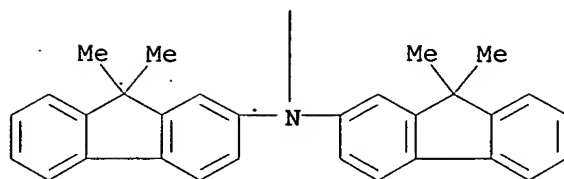


RN 791816-84-7 HCAPLUS
CN 9H-Fluoren-2-amine, N-[4-[5-[7-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]-2,1,3-benzothiadiazol-4-yl]-2-thienyl]phenyl]-N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

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IC ICM C07C211-61
ICS C07D213-38; C07D285-10; C07D333-20; C07D417-04; C09K011-06;
H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)
Section cross-reference(s): 25

IT 486405-31-6P 791816-79-0P 791816-80-3P 791816-81-4P
791816-84-7P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(luminescent material with high glass transition temp. for
electroluminescent device)

L69 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:850326 HCAPLUS

DOCUMENT NUMBER: 142:40075

TITLE: Strongly red-fluorescent novel
donor- π -bridge-acceptor- π -bridge-donor
(D- π -A- π -D) type 2,1,3-benzothiadiazoles
with enhanced two-photon absorption
cross-sections

AUTHOR(S): Kato, Shin-ichiro; Matsumoto, Taisuke; Ishi-i,
Tsutomu; Thiemann, Thies; Shigeiwa, Motoyuki;
Gorohmaru, Hideki; Maeda, Shuichi; Yamashita,
Yoshiro; Mataka, Shuntaro

CORPORATE SOURCE: Interdisciplinary Graduate School of Engineering
Sciences, Kyushu University, Kasuga, 816-8580,
Japan

SOURCE: Chemical Communications (Cambridge, United
Kingdom) (2004), (20), 2342-2343
CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

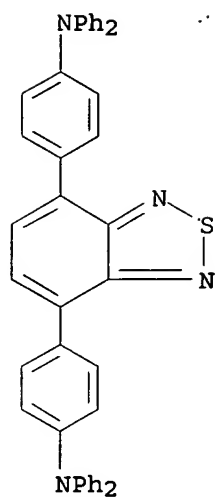
OTHER SOURCE(S): CASREACT 142:40075

AB Novel donor- π -bridge-acceptor- π -bridge-donor (D- π -A- π -D)
type 2,1,3-benzothiadiazole fluorescent dyes connected to the
N,N-diarylamino terminus via various type π -conjugate spacers
exhibit large two-photon absorption cross-sections and high
fluorescent quantum yields in orange-red color.

IT 333432-20-5 688803-92-1 803731-72-8
803731-73-9 803731-74-0 803731-75-1
803731-76-2
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(dye; strongly red-fluorescent conjugated benzothiadiazoles with
enhanced two-photon absorption cross-sections)

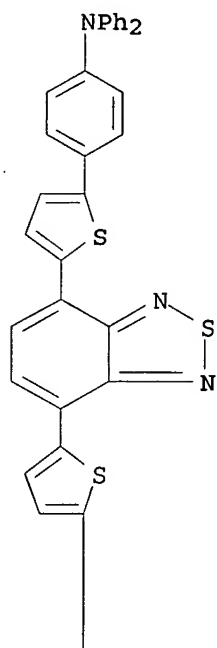
RN 333432-20-5 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl-
(9CI) (CA INDEX NAME)

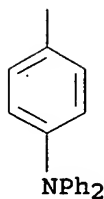


RN 688803-92-1 HCAPLUS
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)-5,2-thiophenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

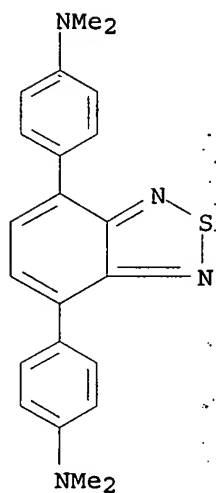
PAGE 1-A



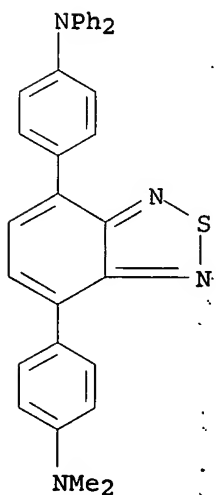
PAGE 2-A



RN 803731-72-8 HCAPLUS
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-dimethyl-
(9CI) (CA INDEX NAME)

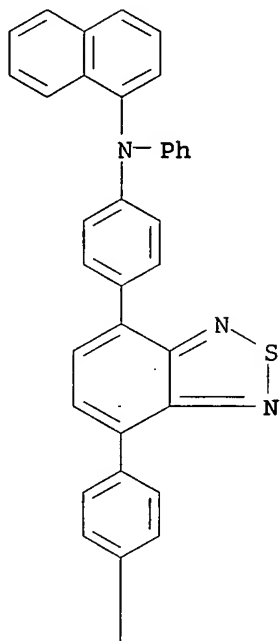


RN 803731-73-9 HCAPLUS
CN Benzenamine, 4-[7-[4-(dimethylamino)phenyl]-2,1,3-benzothiadiazol-4-
yl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

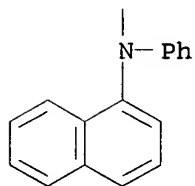


RN 803731-74-0 HCAPLUS
CN 1-Naphthalenamine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl-di-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

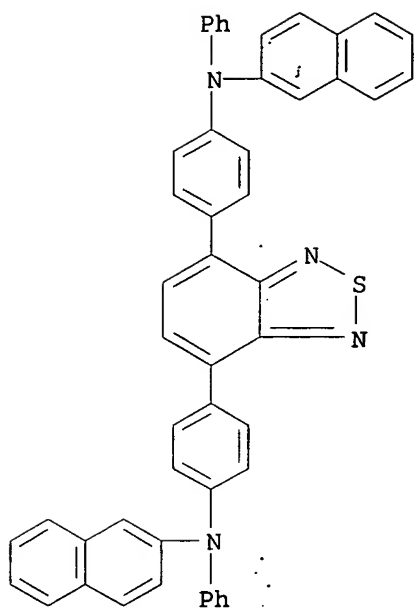
PAGE 1-A



PAGE 2-A

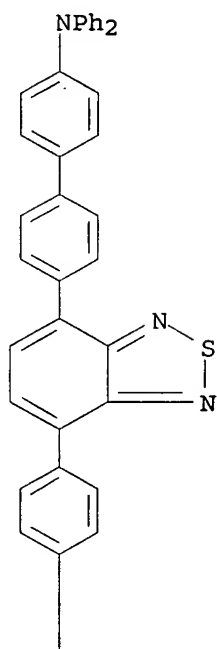


RN 803731-75-1 HCAPLUS
CN 2-Naphthalenamine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl-di-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

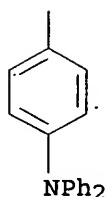


RN 803731-76-2 HCAPLUS
CN [1,1'-Biphenyl]-4-amine, 4',4'''-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

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CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)
Section cross-reference(s): 73, 75

IT 333432-20-5 688803-92-1 803731-72-8
803731-73-9 803731-74-0 803731-75-1
803731-76-2 803731-77-3 803731-78-4
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(dye; strongly red-fluorescent conjugated benzothiadiazoles with
enhanced two-photon absorption cross-sections)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L69 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:850320 HCAPLUS
DOCUMENT NUMBER: 142:45061
TITLE: Energy harvesting star-shaped molecules for
electroluminescence applications

AUTHOR(S): Thomas, K. R. Justin; Velusamy, Marappan; Lin,
Jiann T.; Sun, Shih-Sheng; Tao, Yu-Tai; Chuen,
Chang-Hao

CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei,
Taiwan

SOURCE: Chemical Communications (Cambridge, United
Kingdom) (2004), (20), 2328-2329
CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:45061

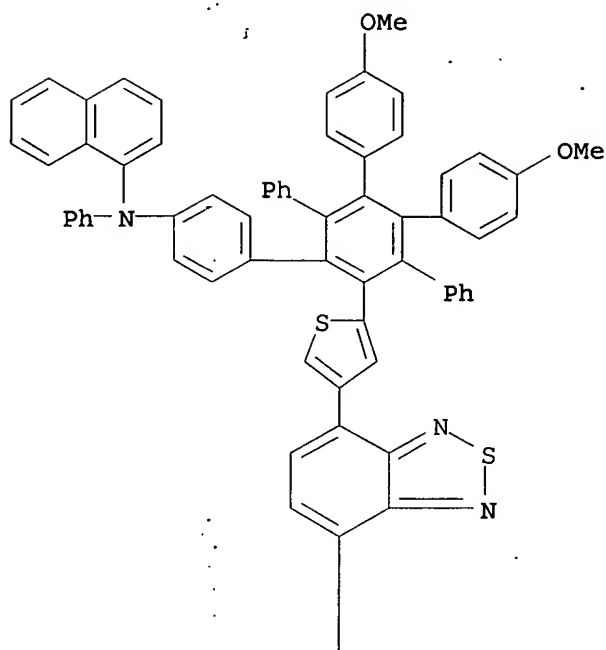
AB Novel energy harvesting mols. featuring hexaarylbenzene based
triarylamine donors and a dithienyl benzothiadiazole acceptor, and
that emit red light in electroluminescent devices, have been prep'd.
for the first time.

IT 805323-77-7 805323-78-8 805323-79-9
RL: FMU (Formation, unclassified); PEP (Physical, engineering or
chemical process); PRP (Properties); PYP (Physical process); FORM
(Formation, nonpreparative); PROC (Process)
(energy harvesting star-shaped mols. for electroluminescence
applications)

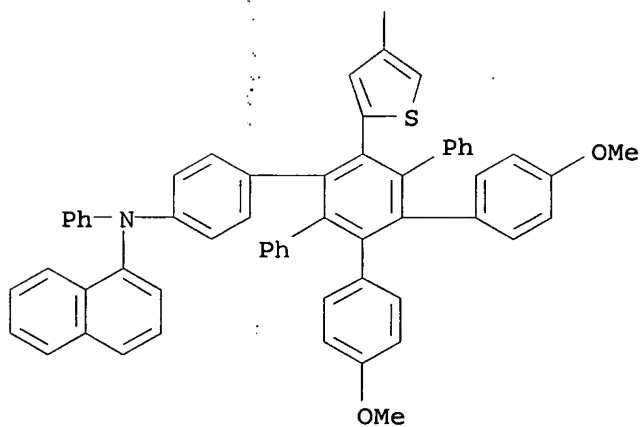
RN 805323-77-7 HCAPLUS

CN 1-Naphthalenamine, N,N'-[2,1,3-benzothiadiazole-4,7-diylbis[4,2-
thiophenediyl[5',6'-bis(4-methoxyphenyl)-4'-phenyl[1,1':2',1''-
terphenyl]-3',4-diyl]]]bis[N-phenyl- (9CI) (CA INDEX NAME)

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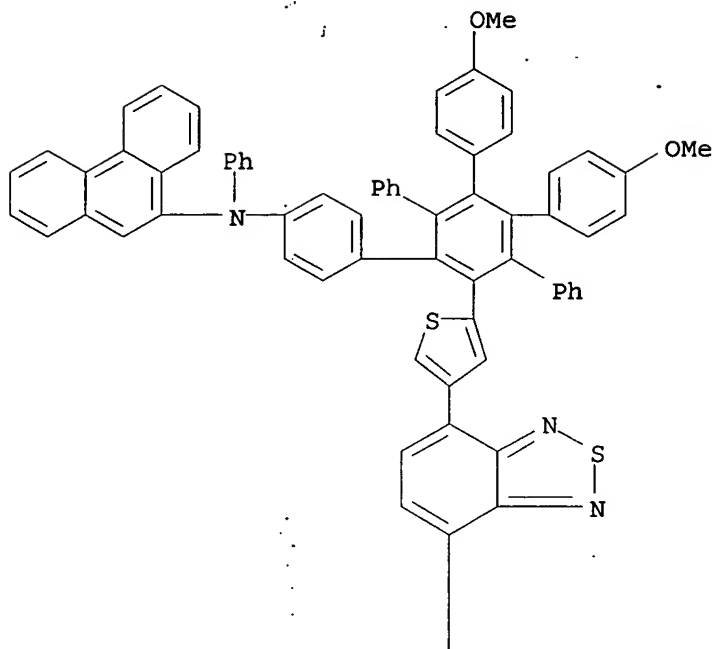


PAGE 2-A

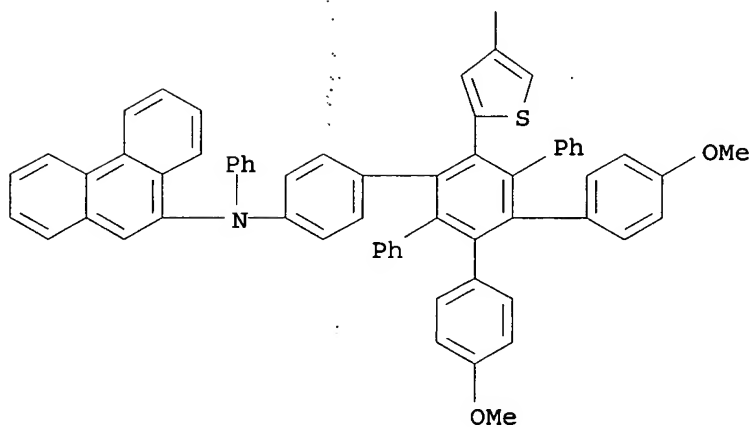


RN 805323-78-8 HCAPLUS
 CN 9-Phenanthrenamine, N,N'-[2,1,3-benzothiadiazole-4,7-diylbis[4,2-thiophenediyl[5',6'-bis(4-methoxyphenyl)-4'-phenyl[1,1':2',1''-terphenyl]-3',4-diyl]]]bis[N-phenyl- (9CI) (CA INDEX NAME)

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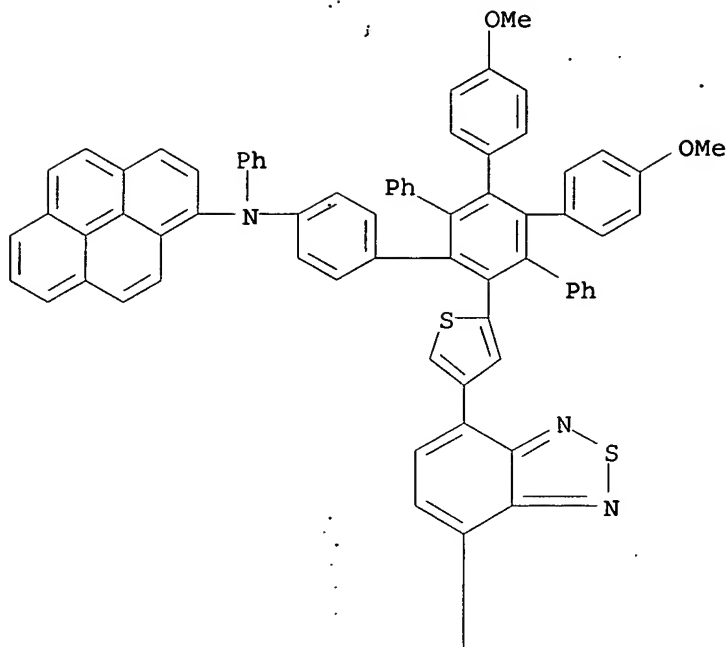


PAGE 2-A

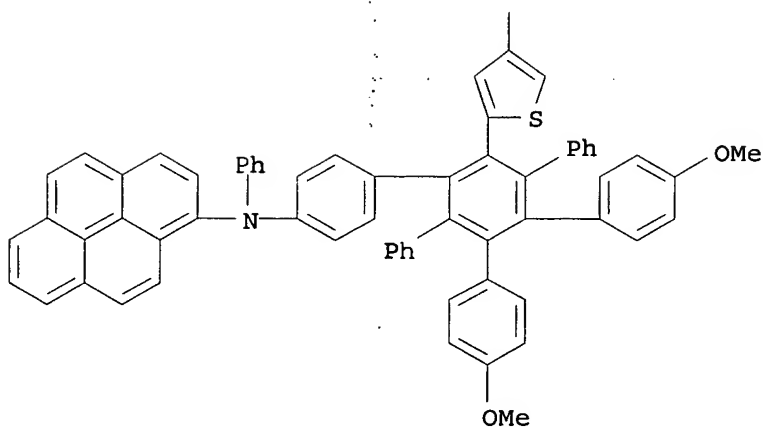


RN 805323-79-9 HCAPLUS
 CN 1-Pyrenamine, N,N'-[2,1,3-benzothiadiazole-4,7-diylbis[4,2-thiophenediyl[5',6'-bis(4-methoxyphenyl)-4'-phenyl[1,1':2',1''-terphenyl]-3',4-diyl]]bis[N-phenyl- (9CI) (CA INDEX NAME)]

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PAGE 2-A



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22

IT 805323-77-7 805323-78-8 805323-79-9

RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); FORM (Formation, nonpreparative); PROC (Process)

(energy harvesting star-shaped mols. for electroluminescence applications)

REFERENCE COUNT:

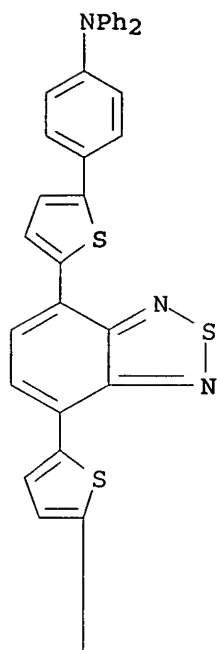
22

THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE

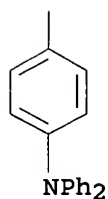
IN THE RE FORMAT

L69 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:135838 HCAPLUS
DOCUMENT NUMBER: 140:406477
TITLE: Color tuning in benzo[1,2,5]thiadiazole-based
small molecules by amino
conjugation/deconjugation: Bright
red-light-emitting diodes
AUTHOR(S): Thomas, K. R. Justin; Lin, Jiann T.; Velusamy,
Marappan; Tao, Yu-Tai; Chuen, Chang-Hao
CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei,
115, Taiwan
SOURCE: Advanced Functional Materials (2004), 14(1),
83-90
CODEN: AFMDC6; ISSN: 1616-301X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:406477
AB Bipolar compds. (referred to in general as btza) contg. a
benzo[1,2,5]thiadiazole core and peripheral diarylamines and/or
4-tert-butylphenyl moieties have been synthesized via
palladium-catalyzed cross-coupling reactions of 4,7-
dibromobenzo[1,2,5]thiadiazole with appropriate stannyl compds.
These compds. are fluorescent and the emission color ranges from
green to red. The fluorescence of the compds. originates from a
charge-transfer process and exhibits solvatochromism. These
red-light-emitting materials are amorphous and devices of different
configurations were fabricated: (I) ITO/btza/TPBI/Mg:Ag; (II)
ITO/btza/Alq3/Mg:Ag; (III) ITO/btza/Mg:Ag (where ITO = indium tin
oxide, TPBI = 1,3,5-tris(N-phenylbenzimidazol-2-yl)benzene, and Alq3
= tris(8-hydroxyquinoline)aluminum). The performance of some of the
red-light-emitting devices appears to be very promising.
IT 333432-20-5P 688803-93-2P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)
(color tuning in benzo[1,2,5]thiadiazole-based small mols. by
amino conjugation/deconjugation providing bright
red-light-emitting diodes)
RN 333432-20-5 HCAPLUS
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 73
IT 333432-20-5P 688803-91-0P 688803-93-2P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(color tuning in benzo[1,2,5]thiadiazole-based small mols. by amino conjugation/deconjugation providing bright red-light-emitting diodes)
IT 688803-89-6P 688803-90-9P 688803-92-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(color tuning in benzo[1,2,5]thiadiazole-based small mols. by amino conjugation/deconjugation providing bright red-light-emitting diodes)
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

ACCESSION NUMBER: 2003:856183 HCAPLUS
 DOCUMENT NUMBER: 139:355885
 TITLE: Materials for organic electronic devices
 INVENTOR(S): Wolk, Martin B.; Bentsen, James G.; Roberts,
 Ralph R.; Staral, John S.; Li, Yingbo
 PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: PCT Int. Appl., 149 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003090502	A2	20031030	WO 2003-US11759	20030415
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003221969	A1	20031103	AU 2003-221969	20030415
US 2003219625	A1	20031127	US 2003-414066	20030415
PRIORITY APPLN. INFO.:			US 2002-373857P	P 20020419
			WO 2003-US11759	W 20030415

OTHER SOURCE(S): MARPAT 139:355885

AB A comps. to be used as a charge transporting material, a charge blocking material, a light-emitting material, a color conversion material or a combination of them, is described comprising a first compd. of general formula [EC]_n-AR, wherein n = 2-4, and AR is an arom. core and is a divalent, trivalent or tetravalent radical of compds. referenced in the content, wherein EC is a first end capping group which is a monovalent radical of compds. referenced in the content, a second compd. selected from a charge transporting, a charge blocking, a light emitting, or a color conversion material, or a combination of them, the second compd. having an arom. radical AR; a second end capping group that comprises the first end capping group of the first compd., a divalent radical that comprises a divalent radical of the first end capping group of the first compd., wherein the arom. radical, the second end capping group and the divalent radical in the second compd. may be (un)substituted,

wherein the compn. is amorphous and soln. processible. An org. electronic device comprising the compn. compd. is also described. A method of fabricating an org. electroluminescent device comprising a transfer layer comprising the compn. is also described.

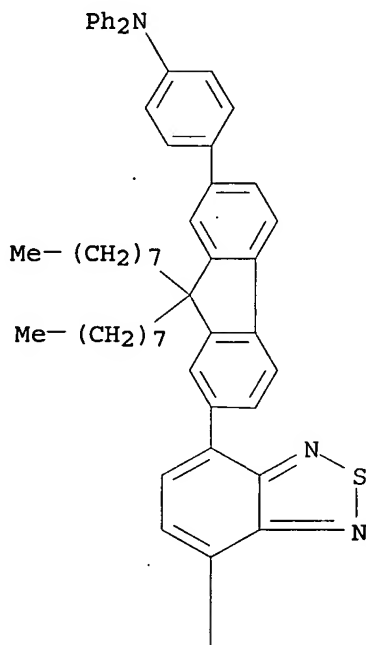
IT 618442-66-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(compn. compds. for org. electronic devices)

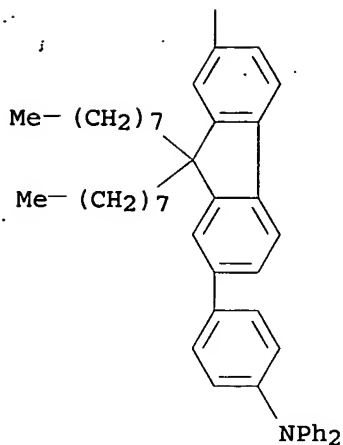
RN 618442-66-3 HCAPLUS

CN Benzenamine, 4,4'-[2,1,3-benzothiadiazo-4,7-diylbis(9,9-dioctyl-9H-fluorene-7,2-diyl)]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

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PAGE 2-A



IC ICM H05B033-14
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76
 IT 15155-41-6P 36809-26-4P 56752-35-3P, 3,9-Dibromo-perylene
 57103-20-5P, 3,6-Dibromo-9-phenylcarbazole 61676-62-8P,
 2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane 85514-20-1P,
 3,10-Dibromo-perylene 198964-46-4P, 2,7-Dibromo-9,9-dioctyl-
 fluorene 302554-81-0P 618442-55-0P 618442-57-2P 618442-61-8P
 618442-62-9P 618442-64-1P 618442-65-2P 618442-66-3P
 618442-67-4P 618442-68-5P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (compn. compds. for org. electronic devices)

L69 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:756531 HCAPLUS
 DOCUMENT NUMBER: 140:33016
 TITLE: Absorption and luminescence properties of sequentially random- and defined copolymers based on poly(fluorene-benzothiadiazole)
 AUTHOR(S): Herguth, Petra; Kim, Joo Hyun; Jiang, Xuezhong; Liu, Michelle S.; Jen, Alex K.-Y.
 CORPORATE SOURCE: Department of Materials Science and Engineering, University of Washington, Seattle, WA, 98195-2120, USA
 SOURCE: Materials Research Society Symposium Proceedings (2003), 771(Organic and Polymeric Materials and Devices), 357-362
 CODEN: MRSPDH; ISSN: 0272-9172
 PUBLISHER: Materials Research Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The emission wavelength in conjugated copolymers is detd. by the various monomers used, their sequence in the polymer backbone, the effective conjugation length of the material, and intra- and intermol. interactions of the different units. This paper will discuss the influence of conjugation length as well as the influence of intramol. charge-transfer on the absorption and emission properties. Fluorene, benzothiadiazole and a 3rd comonomer

(fluorene, xylene or triphenylamine) were used as building blocks. The influence of monomer sequence is probed as well by comparing sequentially random copolymers to their sequentially defined ones with identical monomer ratios. Model oligomers were also made for comparison.

IT 633323-19-0

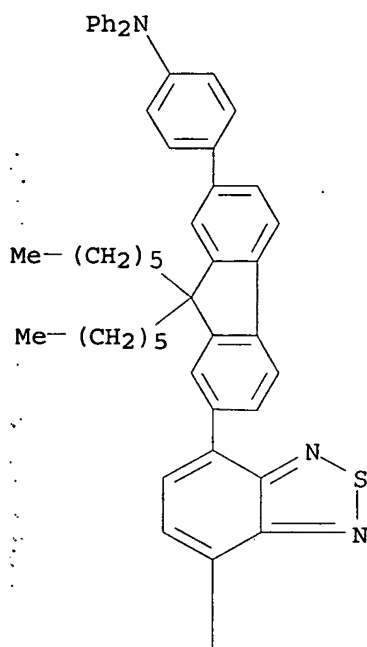
RL: PRP (Properties)

(absorption and luminescence properties of sequentially random- and defined copolymers based on poly(fluorene-benzothiadiazole))

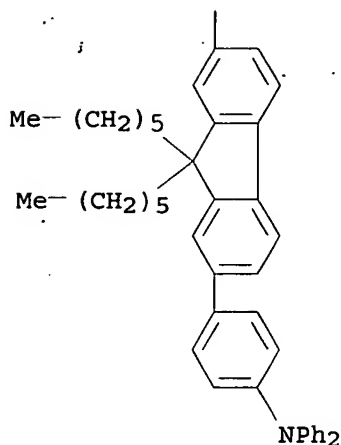
RN 633323-19-0 HCAPLUS

CN	Benzenamine, 4,4'-[2,1,3-benzothiadiazole-4,7-diylbis(9,9-dihexyl-9H-fluorene-7,2-diyl)]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)
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CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 36

IT 633323-07-6 633323-09-8 633323-11-2 633323-13-4 633323-15-6
633323-16-7 633323-17-8 633323-18-9 633323-19-0

RL: PRP (Properties)

(absorption and luminescence properties of sequentially random- and defined copolymers based on poly(fluorene-benzothiadiazole))

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:254870 HCAPLUS

DOCUMENT NUMBER: 134:287964

TITLE: Organic compound for organic electroluminescence member

INVENTOR(S): Hosokawa, Chishio; Ikeda, Shuji

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001097949	A2	20010410	JP 1999-277956	19990930
PRIORITY APPLN. INFO.:				19990930

OTHER SOURCE(S): MARPAT 134:287964

AB The title org. compd. is represented by

$[\text{Ar}_4\text{Ar}_5\text{C}=\text{CR}_1]\text{s}\{(\text{Ar}_2)\text{m}(\text{Ar}_1)\text{k}(\text{Ar}_3)\text{n}\}\text{w}[\text{R}_2\text{C}=\text{C}\text{Ar}_6\text{Ar}_7]\text{t}$ (Ar1 = divalent org. group; Ar2,3 = C6-30 arylene, etc.; Ar4-7 = C6-20 aryl, etc.);

R1,2 = H, C1-6 alkyl, etc.; m, n, s, and t = 0, 1, 2). When the org. compd. is used as a recombination site-forming substance and a light-emitting material, the electroluminescence member gives high efficiency and long lifetime.

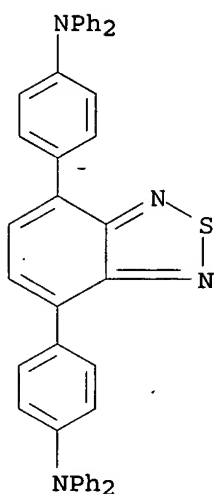
IT 333432-20-5P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(org. compd. for org. electroluminescence member)

RN 333432-20-5 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C07D209-44

ICS C07D235-08; C07D249-18; C07D263-56; C07D275-04; C07D285-14; C07D333-72; C07D417-14; C07D495-04; C07D513-04; C09K011-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 27

IT 333432-12-5P 333432-14-7P 333432-16-9P 333432-18-1P

333432-20-5P 333432-22-7P 333432-24-9P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(org. compd. for org. electroluminescence member)

=> d 164 ibib abs hitstr hitind 1-2

L64 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:270729 HCAPLUS

DOCUMENT NUMBER: 144:469672

TITLE: Novel 2,1,3-benzothiadiazole-based red-fluorescent dyes with enhanced two-photon absorption cross-sections

AUTHOR(S): Kato, Shin-ichiro; Matsumoto, Taisuke; Shigeiwa, Motoyuki; Gorohmaru, Hideki; Maeda, Shuuichi; Ishi-i, Tsutomu; Mataka, Shuntaro

CORPORATE SOURCE: Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, 6-1 Kasuga-koh-en Kasuga, 816-8580, Japan

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

SOURCE: Chemistry--A European Journal (2006), 12(8),
2303-2317
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

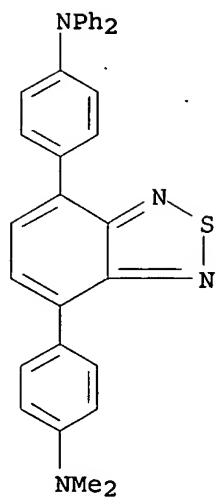
AB This paper reports the two-photon absorbing and orange-red fluorescence emitting properties of a series of new 2,1,3-benzothiadiazole (BTD)-based D- π -A- π -D-type and starburst-type fluorescent dyes. In the ten D- π -A- π -D-type dyes, a central BTD core was connected with two terminal N,N-disubstituted amino groups via various π -conjugated spacers. The star-burst-type dyes have a three-branched structure composed of a central core (benzene core or triphenylamine core) and three triphenylamine-contg. BTD branches. All the BTD-based dyes displayed intense orange-red color fluorescence in a region of 550-689 nm, which was obtained by single-photon excitation with good fluorescent quantum yield up to 0.98 as well as by two-photon excitation. Large two-photon absorption (TPA) cross-sections (110-800 GM) of these BTD dyes were evaluated by open aperture Z-scan technique with a femtosecond Ti/sapphire laser. The TPA cross-sections of D- π -A- π -D-type dyes with a benzene, thiophene, ethene, ethyne, or styrene moiety as an addnl. π -conjugated spacer are about 1.5-2.5 times larger than that of a dye with only a benzene spacer. The TPA cross-sections significantly increased in three-branched star-burst-type BTDs (780 GM) with a benzene core and (800 GM) with a triphenylamine core, which are about 3-5 times larger than those of the corresponding one-dimensional sub-units (170 GM) and (230 GM), resp. The ratios of $\sigma/\epsilon\pi$ between three-branched and one-dimensional dyes were 6.5:3.8 and 6.0:4.0, which are larger than those predicted simply on the basis of the chromophore no. d. (1:1), according to a cooperative enhancement of the two-photon absorbing nature in the three-branched system.

IT 803731-73-9P 803731-76-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(orange dye; prepn. of benzothiadiazole-based red-fluorescent dyes with enhanced two-photon absorption cross-sections)

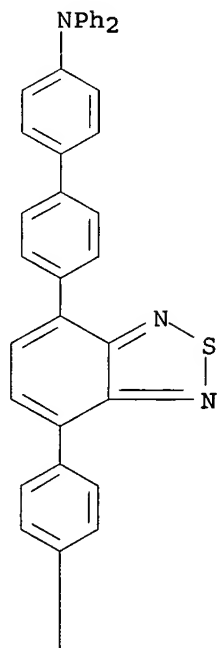
RN 803731-73-9 HCAPLUS

CN Benzenamine, 4-[7-[4-(dimethylamino)phenyl]-2,1,3-benzothiadiazol-4-yl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

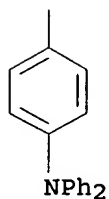


RN 803731-76-2 HCAPLUS
CN [1,1'-Biphenyl]-4-amine, 4',4'''-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

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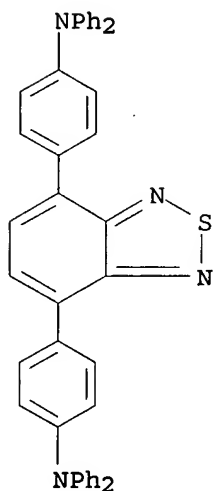


IT 333432-20-5P 688803-92-1P 803731-72-8P
803731-74-0P 803731-75-1P 886444-81-1P
886444-83-3P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(red dye; prepn. of benzothiadiazole-based red-fluorescent dyes with enhanced two-photon absorption cross-sections)

RN 333432-20-5 HCAPLUS

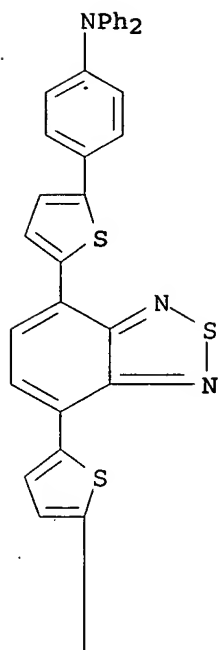
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



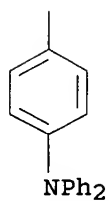
RN 688803-92-1 HCAPLUS

CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)di-5,2-thiophenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

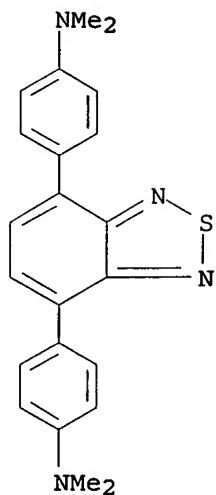
PAGE 1-A



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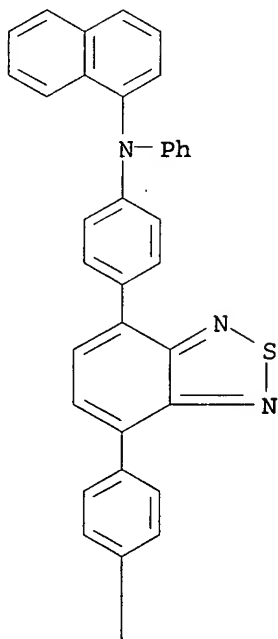


RN 803731-72-8 HCAPLUS
CN Benzenamine, 4,4'-(2,1,3-benzothiadiazole-4,7-diyl)bis[N,N-dimethyl-
(9CI) (CA INDEX NAME)

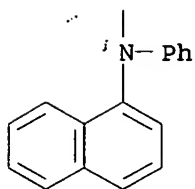


RN 803731-74-0 HCAPLUS
CN 1-Naphthalenamine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl)-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

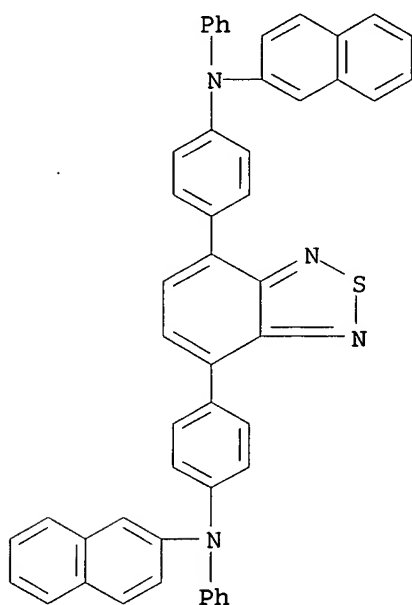
PAGE 1-A



PAGE 2-A

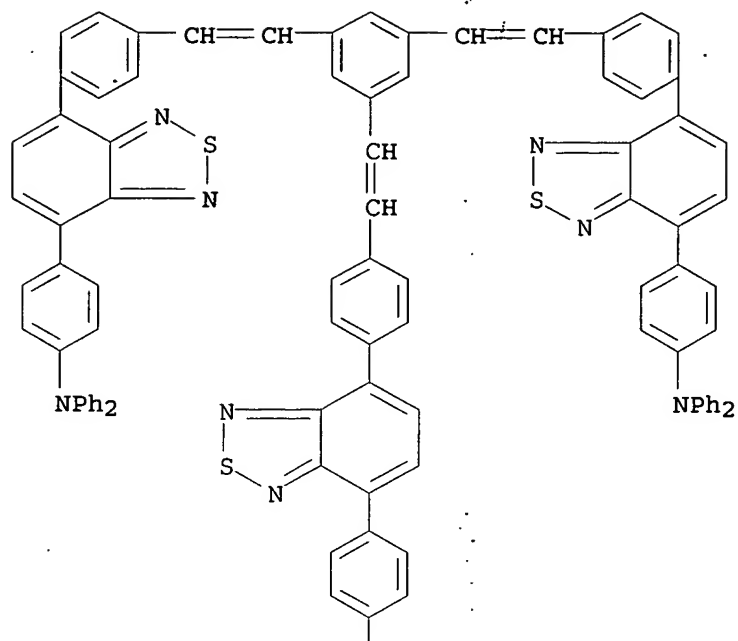


RN 803731-75-1 HCAPLUS
 CN 2-Naphthalenamine, N,N'-(2,1,3-benzothiadiazole-4,7-diyl-di-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)



RN 886444-81-1 HCAPLUS
 CN Benzenamine, 4,4',4''-[1,3,5-benzenetriyltris(2,1-ethenediyl-4,1-phenylene-2,1,3-benzothiadiazole-7,4-diyl)]tris[N,N-diphenyl- (9CI) (CA INDEX NAME)

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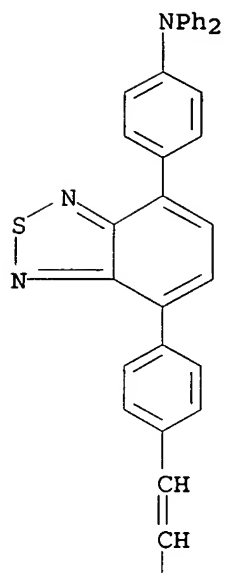


PAGE 2-A

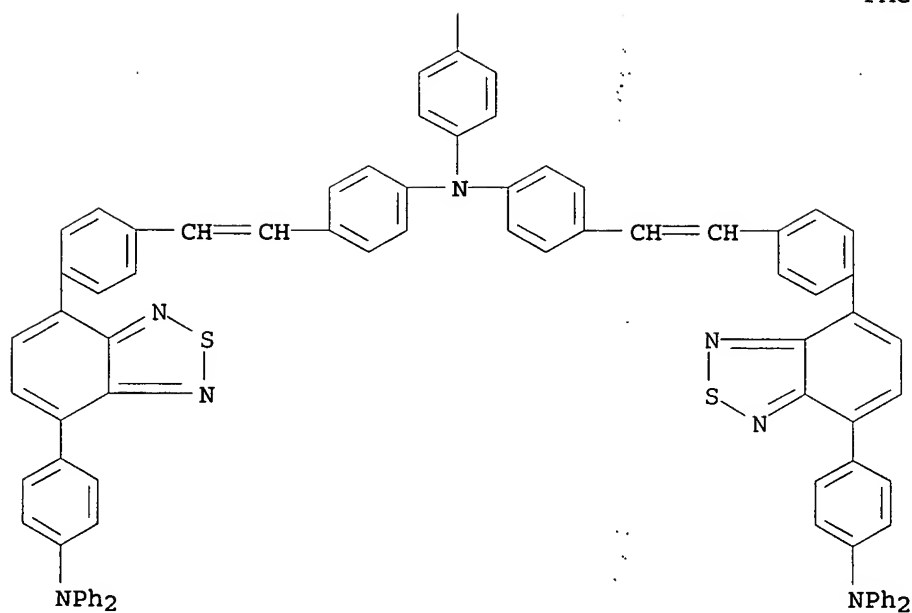
NPh₂

RN 886444-83-3 HCAPLUS
 CN Benzenamine, 4-[2-[4-[7-[4-(diphenylamino)phenyl]-2,1,3-benzothiadiazol-4-yl]phenyl]ethenyl]-N,N-bis[4-[2-[4-[7-[4-(diphenylamino)phenyl]-2,1,3-benzothiadiazol-4-yl]phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

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CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)

Section cross-reference(s): 28, 29, 65, 73

IT 803731-73-9P 803731-76-2P 886444-80-0P

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

886444-82-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(orange dye; prepn. of benzothiadiazole-based red-fluorescent dyes with enhanced two-photon absorption cross-sections)

IT 333432-20-5P 688803-92-1P 803731-72-8P

803731-74-0P 803731-75-1P 803731-77-3P

803731-78-4P 886444-81-1P 886444-83-3P

886444-84-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(red dye; prepn. of benzothiadiazole-based red-fluorescent dyes with enhanced two-photon absorption cross-sections)

REFERENCE COUNT: 109 THERE ARE 109 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L64 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:673249 HCAPLUS

DOCUMENT NUMBER: 143:172622

TITLE: Preparation and application of amine compounds
having fluorene group as frameworkINVENTOR(S): Nishiyama, Masakazu; Matsumoto, Naoki; Eguchi,
Hisao

PATENT ASSIGNEE(S): Tosoh Corporation, Japan

SOURCE: PCT Int. Appl., 56 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005068413	A1	20050728	WO 2005-JP727	20050114

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZWRW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC,
NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2006151935 A2 20060615 JP 2005-7475

PRIORITY APPLN. INFO.:

JP 2004-7824

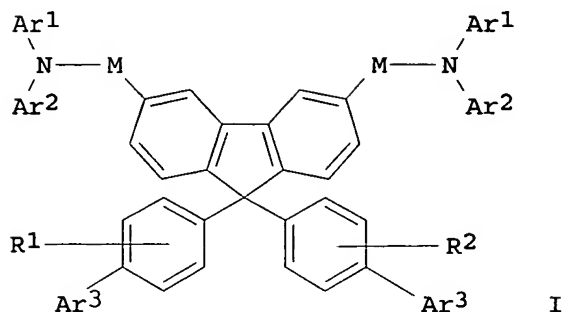
A

JP 2004-106968

A

JP 2004-310870

A

200410
26OTHER SOURCE(S): MARPAT 143:172622
GI

AB The invention relates to a novel amine compd. utilizable as a hole-transporting or hole-injecting material in org. electroluminescent elements, electrophotog. photoreceptors, etc. The novel amine compd. is represented by the formula I, where R1 and R2 each independently represents hydrogen, linear, branched, or cyclic alkyl or alkoxy, aryl, aryloxy, or halogeno; Ar1's and Ar2's each independently represents (un)substituted aryl or heteroaryl, provided that each Ar1 may be bonded to the corresponding Ar2 to form a nitrogenous heterocycle in cooperation with the nitrogen atom bonded thereto; Ar3's each independently represents (un)substituted Ph, naphthyl, biphenyl, terphenyl, anthryl, fluorenyl, or pyridyl (provided that those substituted by amino are excluded); and M represents a single bond, arylene, or heteroarylene.

IT 860495-45-0P

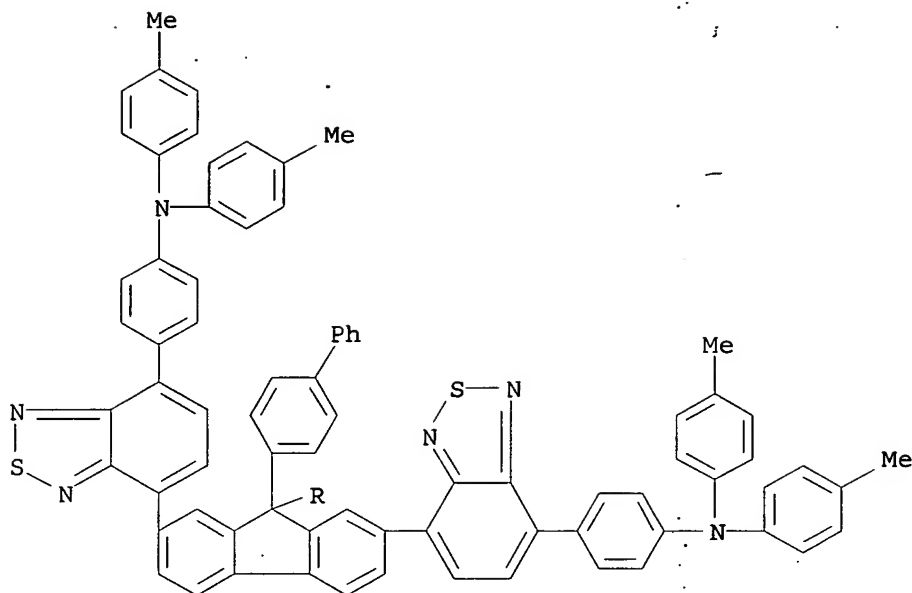
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and application of amine compds. having fluorene group as framework)

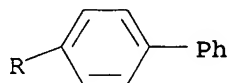
RN 860495-45-0 HCAPLUS

CN Benzenamine, 4,4'-[[9,9-bis([1,1'-biphenyl]-4-yl)-9H-fluorene-2,7-diyl]bis(2,1,3-benzothiadiazole-7,4-diyl)]bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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IC ICM C07C211-54
ICS C07C209-68; C09K011-06; H05B033-14; H05B033-22; C07D285-14;
C07D209-86

CC 25-4 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 73

IT 860495-30-3P 860495-31-4P 860495-32-5P 860495-33-6P
860495-34-7P 860495-35-8P 860495-36-9P 860495-37-0P
860495-38-1P 860495-39-2P 860495-40-5P 860495-41-6P
860495-43-8P 860495-44-9P 860495-45-0P 860495-48-3P
860495-49-4P 860495-50-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and application of amine compds. having fluorene group as
framework)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

=> d l58 ibib abs hitstr hitind 1-6

L58 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:251061 HCAPLUS
DOCUMENT NUMBER: 144:468562

MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

TITLE: Low-Band-Gap Conjugated Polymers Based on Thiophene, Benzothiadiazole, and Benzobis(thiadiazole)
AUTHOR(S): Bundgaard, Eva; Krebs, Frederik C.
CORPORATE SOURCE: The Danish Polymer Centre, RISOe National Laboratory, Roskilde, DK-4000, Den.
SOURCE: Macromolecules (2006), 39(8), 2823-2831
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of low-band-gap copolymers of thiophene, benzothiadiazole, and benzobis(thiadiazole) were synthesized by Stille cross-coupling polymn. of distannylalkylthiophenes and dithiophenes with dibromo derivs. of benzothiadiazoles and benzobis(thiadiazole)s. The polymers were characterized using NMR, UV-vis, and size exclusion chromatog. (SEC). The mol. wt., soly., and film-forming ability were highly dependent on the choice of side chains. The 3,7,11-trimethyldodecyl side chains were found to form polymers with high mol. wt., good film-forming ability, and good soly. The band gap was estd. from UV-vis spectra to be 2.1-1.7 eV for polymers based on benzothiadiazole and .apprx.0.7 eV for polymers based on benzobis(thiadiazole). The band gap and electronic structure of the polymers were detd. by a combination of UV-vis spectroscopy and UPS.

IT 886746-62-9P 886746-67-4P 886746-68-5P

886746-73-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(sol. low-band-gap conjugated polythiophenes prepd. by Stille coupling and oxidative polymn. of thiophenes and benzothiadiazoles and benzobis(thiadiazole)s)

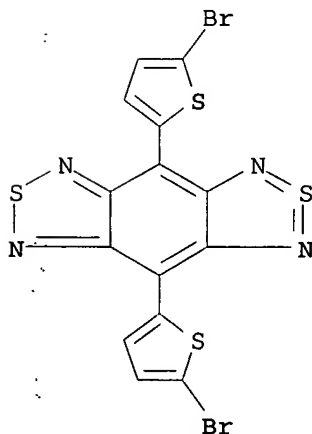
RN 886746-62-9 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole, 4,8-bis(5-bromo-2-thienyl)-, polymer with [3-(3,7,11-trimethyldodecyl)-2,5-thiophenediyl]bis[trimethylstannane] (9CI) (CA INDEX NAME)

CM 1

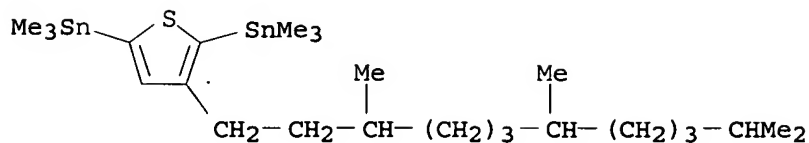
CRN 886746-58-3

CMF C14 H4 Br2 N4 S4



CM 2

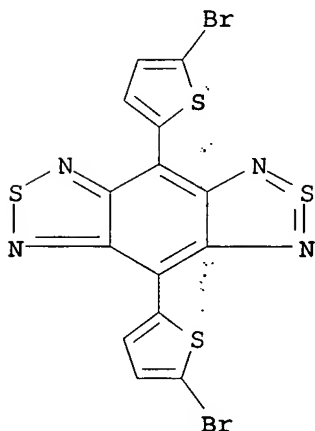
CRN 886746-56-1
CMF C25 H50 S Sn2



RN 886746-67-4 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole, 4,8-bis(5-bromo-2-thienyl)-, polymer with [4,4'-bis(3,7,11-trimethyldodecyl)[2,2'-bithiophene]-5,5'-diyl]bis[trimethylstannane] (9CI) (CA INDEX NAME)

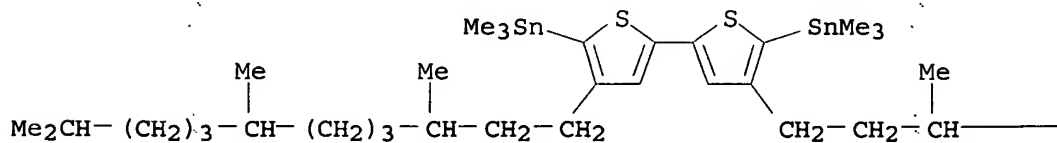
CM 1

CRN 886746-58-3
CMF C14 H4 Br2 N4 S4



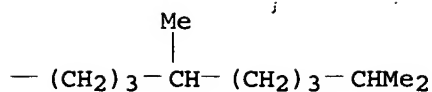
CM 2

CRN 886746-57-2
CMF C44 H82 S2 Sn2



PAGE 1-A

PAGE 1-B



RN 886746-68-5 HCAPLUS

CN Poly[1H,3H-benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-4,8-diyl[3',4''-bis(3,7,11-trimethyldodecyl)[2,2':5'',2'':5''',2'''-quaterthiophene]-5,5'''-diyl]] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

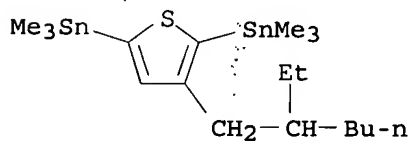
RN 886746-73-2 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole, 4,8-bis(5-bromo-2-thienyl)-, polymer with [3-(2-ethylhexyl)-2,5-thiophenediyl]bis[trimethylstannane] (9CI) (CA INDEX NAME)

CM 1

CRN 886746-70-9

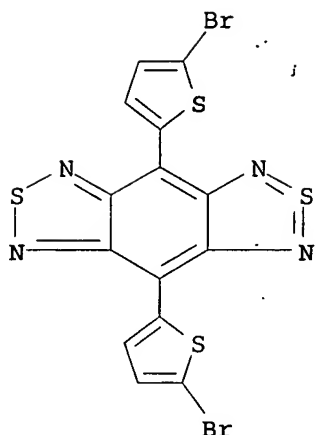
CMF C18 H36 S Sn2



CM 2

CRN 886746-58-3

CMF C14 H4 Br2 N4 S4

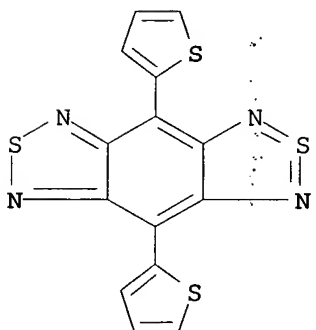


IT 165190-75-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(sol. low-band-gap conjugated polythiophenes prepd. by Stille
coupling and oxidative polymn. of thiophenes and
benzothiadiazoles and benzobis(thiadiazole)s)

RN 165190-75-0 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-di-2-thienyl-
(9CI) (CA INDEX NAME)

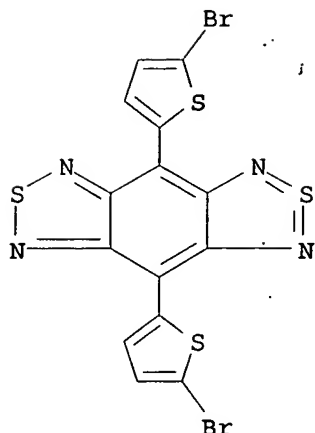


IT 886746-58-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(sol. low-band-gap conjugated polythiophenes prepd. by Stille
coupling and oxidative polymn. of thiophenes and
benzothiadiazoles and benzobis(thiadiazole)s)

RN 886746-58-3 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-bis(5-bromo-2-
thienyl)- (9CI) (CA INDEX NAME)



- CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
- IT 868394-46-1P 868546-52-5P 886746-60-7P 886746-61-8P
886746-62-9P 886746-63-0P 886746-64-1P 886746-65-2P
886746-66-3P 886746-67-4P 886746-68-5P
886746-69-6P, 4,7-Bis[4'-(2-ethylhexyl)-2,2'-dithiophenyl-5-yl]benzo[1,2,5]thiadiazole homopolymer 886746-71-0P 886746-72-1P
886746-73-2P 886746-75-4P 886746-77-6P 886999-36-6P
886999-38-8P 886999-39-9P 886999-40-2P 886999-42-4P
886999-43-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(sol. low-band-gap conjugated polythiophenes prepd. by Stille coupling and oxidative polymn. of thiophenes and benzothiadiazoles and benzobis(thiadiazole)s)
- IT 128-08-5, NBS 1066-45-1, Trimethylstannyl chloride 1461-22-9, Tributylstannyl chloride 54663-78-4, 2-(Tributylstannyl)thiophene 165190-75-0 288071-87-4 444579-42-4, 5-Tributylstannyl-3-hexylthiophene
RL: RCT (Reactant); RACT (Reactant or reagent)
(sol. low-band-gap conjugated polythiophenes prepd. by Stille coupling and oxidative polymn. of thiophenes and benzothiadiazoles and benzobis(thiadiazole)s)
- IT 104934-52-3P, 3-Dodecylthiophene 121134-38-1P, 3-(2-Ethylhexyl)thiophene 151393-39-4P, 3-(3,7,11-Trimethyldodecyl)thiophene 886746-53-8P, 2-(Trimethylstannyl)-4-(3,7,11-trimethyldodecyl)thiophene 886746-54-9P, 4-(2-Ethylhexyl)-2-tributylstannylthiophene 886746-55-0P, 4,4'-Bis(3,7,11-trimethyldodecyl)-2,2'-dithiophene 886746-58-3P 886746-59-4P, 4,7-Bis[4'-(2-ethylhexyl)-2,2'-dithiophenyl-5-yl]benzo[1,2,5]thiadiazole 886746-78-7P, 2-Bromo-3-(3,7,11-trimethyldodecyl)thiophene 886746-79-8P, 4-Dodecyl-2-tributylstannylthiophene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(sol. low-band-gap conjugated polythiophenes prepd. by Stille coupling and oxidative polymn. of thiophenes and benzothiadiazoles and benzobis(thiadiazole)s)
- REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:557247 HCAPLUS

DOCUMENT NUMBER: 137:301535

TITLE: Laser-induced fluorescence and fluorescence lifetime of diphenylbenzobis(thiadiazole) in supersonic free jets

AUTHOR(S): Kono, Mitsuhiro

CORPORATE SOURCE: Atomic and Molecular Physics Laboratories, Australian National University, Research School of Physical Sciences and Engineering, Canberra, ACT 0200, Australia

SOURCE: Chemical Physics (2002), 282(1), 101-107

CODEN: CMPHC2; ISSN: 0301-0104

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The technique of laser-induced fluorescence (LIF) spectroscopy in supersonic free jets was applied to diphenylbenzobis(thiadiazole), in the excitation wavelength region of 500-595 nm. The position of the electronic origin is 589.81 ± 0.02 nm. The LIF excitation spectra indicate that the Ph groups swing torsionally with large amplitude in the electronically excited state. The fluorescence lifetimes were measured at 11 major vibronic bands to vary between 42.0 and 43.4 ns, with no observable decrease for vibrational energies in the 1st excited singlet state up to 2605 cm^{-1} . The LIF spectrum and fluorescence lifetime of van der Waals complexes with Xe atoms were also measured. No heavy-atom effect on the fluorescence lifetimes was obsd., and therefore the fluorescence quantum yields are expected to be unity even when the excited mol. had a high excess energy up to 2605 cm^{-1} .

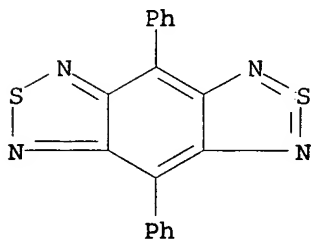
IT 165617-60-7D, compd. with Xe

RL: PRP (Properties)

(laser-induced fluorescence and fluorescence lifetime of diphenylbenzobis(thiadiazole) in supersonic free jets)

RN 165617-60-7 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-diphenyl- (9CI) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 7440-63-3D, Xenon, compd. with di-Ph benzobis(dithiazole)

165617-60-7D, compd. with Xe

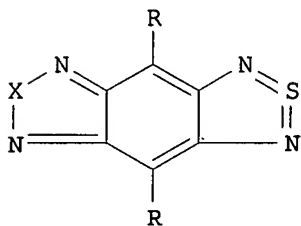
RL: PRP (Properties)

(laser-induced fluorescence and fluorescence lifetime of diphenylbenzobis(thiadiazole) in supersonic free jets)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE

IN THE RE FORMAT

L58 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:492172 HCAPLUS
DOCUMENT NUMBER: 127:205525
TITLE: Synthesis and properties of
benzobis(thiadiazole)s with nonclassical
 π -electron ring systems
AUTHOR(S): Yamashita, Yoshiro; Ono, Katsuhiko; Tomura,
Masaaki; Tanaka, Shoji
CORPORATE SOURCE: Institute for Molecular Science, Okazaki, 444,
Japan
SOURCE: Tetrahedron (1997), 53(29), 10169-10178
CODEN: TETRAE; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



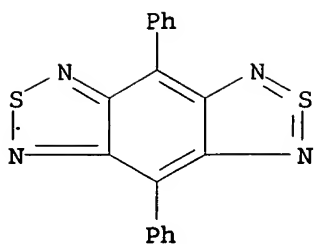
AB Benzo[1,2-c:4,5-c']bis([1,2,5]thiadiazole) contg. a hypervalent sulfur atom has a low LUMO energy. The aryl derivs. I [R = Ph, 4-Me₂NC₆H₄, 2,4-(MeO)₂C₆H₃, SPh, morpholino, X = S] were synthesized using a Stille coupling reaction. The selenadiazole analogs I (R = Br, Ph, X = Se) were also prepd. The electron accepting properties of these nonclassical heterocycles were shown by their high redn. potentials. Introduction of electron-donating groups into the electron-withdrawing heterocycles afforded novel donor-acceptor compds. Some of them have the absorption maxima above 700 nm due to the small HOMO-LUMO sepn. X-ray structure anal. of the di-Ph deriv. revealed the formation of a tape-like network through short S...N contacts.

IT 165617-60-7P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(prepn. and cyclic voltammetry of benzobis(thiadiazole)s)

RN 165617-60-7 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-diphenyl- (9CI)
(CA INDEX NAME)



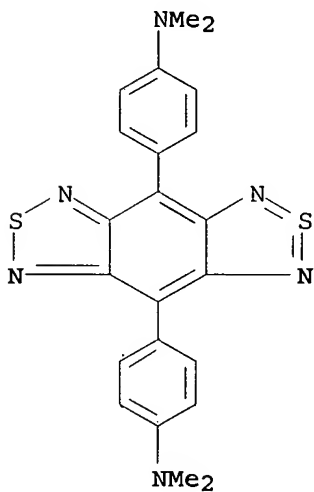
IT 194553-44-1P 194553-45-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and cyclic voltammetry of benzobis(thiadiazole)s)

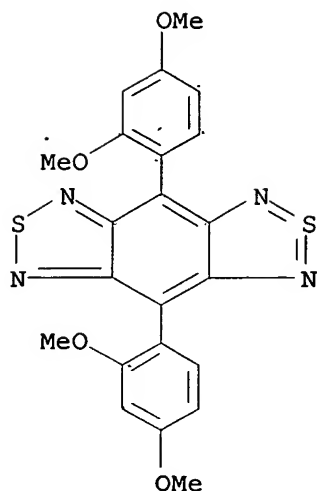
RN 194553-44-1 HCAPLUS

CN Benzenamine, 4,4'-benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV-4,8-diylbis[N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 194553-45-2 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-bis(2,4-dimethoxyphenyl)- (9CI) (CA INDEX NAME)



CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 22, 29
 IT 165617-59-4P 165617-60-7P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and cyclic voltammetry of benzobis(thiadiazole)s)
 IT 194553-44-1P 194553-45-2P 194553-46-3P
 194553-47-4P 194553-48-5P 194553-49-6P 194553-50-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (prepn. and cyclic voltammetry of benzobis(thiadiazole)s)
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L58 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1996:58404 HCAPLUS
 DOCUMENT NUMBER: 124:88032
 TITLE: Design of Narrow-Bandgap Polymers. Syntheses and
 Properties of Monomers and Polymers Containing
 Aromatic-Donor and o-Quinoid-Acceptor Units
 AUTHOR(S): Kitamura, Chitoshi; Tanaka, Shoji; Yamashita,
 Yoshiro
 CORPORATE SOURCE: Department of Structural Molecular Science,
 Graduate University for Advanced Studies,
 Okazaki, 444, Japan
 SOURCE: Chemistry of Materials (1996), 8(2), 570-8
 CODEN: CMATEX; ISSN: 0897-4756
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A series of novel monomers and polymers contg. arom.-donor and
 o-quinoid-acceptor units was prepd., and the relationship between
 their spectral and electrochem. properties and their structures was
 investigated. X-ray structure analyses of the monomers possessing
 thiophene units revealed coplanar conformations, whereas calcns. of
 the monomers contg. N-methylpyrrole showed torsional conformations.
 Cyclic voltammetry showed amphoteric properties for all the monomers
 and p- and n-doping processes for most of the polymers. The redn.
 potentials were primarily dependent on the electron-accepting

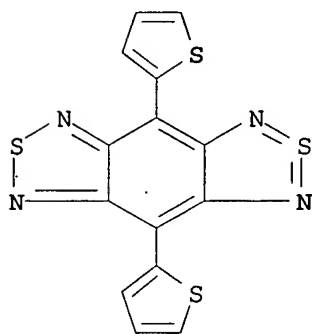
character of the o-quinoid-acceptor units. The electrochem. behavior of the polymers was characterized by cyclic voltammetry and suggested narrow-bandgap systems. The bandgaps detd. from optical absorption spectra range from 0.5 to 1.4 eV. The polymer composed of thiophenes and benzo[1,2-c;3,4-c']bis[1,2,5]thiadiazole exhibited the narrowest bandgap.

IT 165190-75-0P 172704-53-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; prepn. and properties of monomers and narrow-gap polymers contg. arom.-donor and o-quinoid-acceptor units)

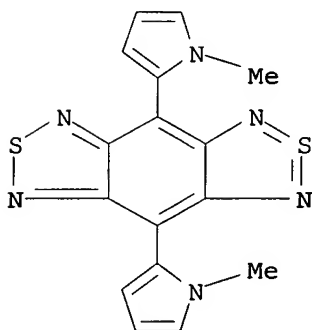
RN 165190-75-0 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-di-2-thienyl- (9CI) (CA INDEX NAME)



RN 172704-53-9 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-bis(1-methyl-1H-pyrrol-2-yl)- (9CI) (CA INDEX NAME)



IT 165190-77-2P 172704-58-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(of monomers contg. arom.-donor and o-quinoid-acceptor units)

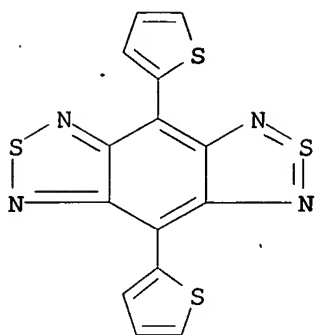
RN 165190-77-2 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-di-2-thienyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 165190-75-0

CMF C14 H6 N4 S4



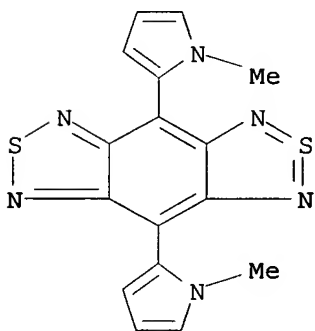
RN 172704-58-4 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-bis(1-methyl-1H-pyrrol-2-yl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 172704-53-9

CMF C16 H12 N6 S2



CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 76

IT 156645-42-0P 156645-43-1P 156645-44-2P 156645-45-3P

165190-75-0P 165190-76-1P 172704-45-9P 172704-46-0P

172704-47-1P 172704-48-2P 172704-49-3P 172704-50-6P

172704-51-7P 172704-52-8P 172704-53-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(monomer; prepn. and properties of monomers and narrow-gap polymers contg. arom.-donor and o-quinoid-acceptor units)

IT 156645-47-5P 165190-77-2P 165190-78-3P 172704-54-0P

172704-55-1P 172704-56-2P 172704-57-3P 172704-58-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(of monomers contg. arom.-donor and o-quinoid-acceptor units)

L58 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:650519 HCAPLUS

DOCUMENT NUMBER: 123:56729

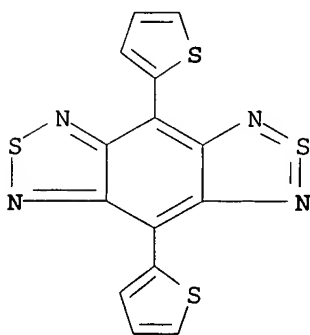
MEI HUANG EIC1700 REM4B28 571-272-3952

08/14/2006

TITLE: New Narrow-Bandgap Polymer Composed of
Benzobis(1,2,5-thiadiazole) and Thiophenes
AUTHOR(S): Karikomi, Michinori; Kitamura, Chitoshi; Tanaka,
Shoji; Yamashita, Yoshiro
CORPORATE SOURCE: Department of Structural Molecular Science,
Graduate University for Advanced Studies,
Okazaki, 444, Japan
SOURCE: Journal of the American Chemical Society (1995),
117(25), 6791-2
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A heterocyclic copolymer consisting of benzobis(1,2,5-thiadiazole)
and thiophene units was prepd. It showed a very narrow band gap.
The corresponding monomer mol. was prepd. from 4,7-
dibromobenzo[c][1,2,5]thiadiazole. The thienyl groups were
introduced using a coupling reaction of tributyl(2-thienyl)tin with
the dibromo compd. in the presence of catalytic [Pd(PPh₃)₂Cl₂]. The
mol. has a small HOMO-LUMO sepn. and showed an absorption max. at
702 nm. X-ray anal. reveals the planar geometry and unusual
nonclassical heterocyclic structure. The polymer was prepd. on a Pt
electrode and ITO glass electrode by anodic oxidn. The cyclic
voltammogram of the polymer showed a small difference in threshold
potentials for p-doping and n-doping. The optical band gap was
estd. from the absorption edge of the electronic spectrum to be
below 0.5 eV that is the lowest value in the conjugated polymers
reported so far. This property can be attributed to the high
electron affinity and large quinoid contribution of the
benzobisthiadiazole ring.

IT 165190-75-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(monomer; prepn. of narrow-band gap polymer contg.
benzobis(1,2,5-thiadiazole) and thiophene groups)
RN 165190-75-0 HCAPLUS
CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-di-2-thienyl-
(9CI) (CA INDEX NAME)



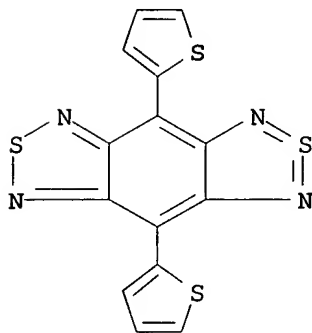
IT 165190-77-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and properties of narrow-band gap polymer contg.
benzobis(1,2,5-thiadiazole) and thiophene groups)
RN 165190-77-2 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-di-2-thienyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 165190-75-0

CMF C14 H6 N4 S4



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73, 75, 76

IT 165190-75-0P 165190-76-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(monomer; prepn. of narrow-band gap polymer contg.

benzobis(1,2,5-thiadiazole) and thiophene groups)

IT 165190-77-2P 165190-78-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(prepn. and properties of narrow-band gap polymer contg.

benzobis(1,2,5-thiadiazole) and thiophene groups)

L58 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:579300 HCAPLUS

DOCUMENT NUMBER: 123:112020

TITLE: Benzobis(thiadiazoles) with hypervalent sulfur
atoms: novel heterocycles with high electron
affinities and short intermolecules distances
between heteroatoms

AUTHOR(S): Ono, Katsuhiko; Tanaka, Shoji; Yamashita,
Yoshiro

CORPORATE SOURCE: Dep. Structural Molecular Sci., Grad. Univ.
Advanced Studies, Okazaki, 444, Japan

SOURCE: Angewandte Chemie (1994), 106(19), 2030-2, (See
also Angew. Chem., Int. Ed. Engl., 1994, 33(19),
1977-9)

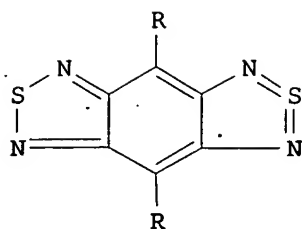
CODEN: ANCEAD; ISSN: 0044-8249

PUBLISHER: VCH

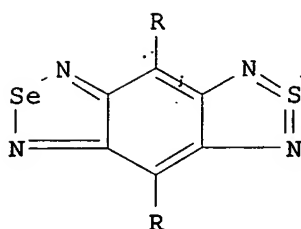
DOCUMENT TYPE: Journal

LANGUAGE: German

GI



I



II

AB Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV derivs. I (R = Br, Ph) and the analogous hypervalent selenium compds. I (R = Br, Ph) were prepd.

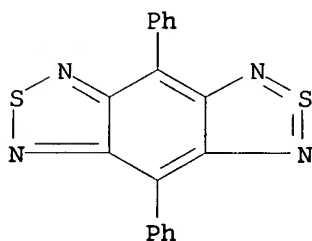
IT 165617-60-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. of hypervalent benzobis(thiadiazoles) and selenium analogs)

RN 165617-60-7 HCAPLUS

CN Benzo[1,2-c:4,5-c']bis[1,2,5]thiadiazole-6-SIV, 4,8-diphenyl- (9CI) (CA INDEX NAME)



CC 28-20 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 22, 75

IT 165617-59-4P 165617-60-7P 165617-61-8P 165617-62-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. of hypervalent benzobis(thiadiazoles) and selenium analogs)

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